
From: Podczervinski, Sara T (DOH)
Sent: 12/28/2018 10:52:28 AM
To: Bevers, Elyse K (DOH),Schneider, Emily C (DOH),Kvak, Staci L (DOH),Kauber, Kelly J (DOH),Montgomery, Patricia A (DOH),D'Angeli, Marisa (DOH),Maceachern, Dorothy (DOHi),Dana Nguyen,Lewis, Larissa C (DOH)
Cc:
Subject: AJIC Article on Public Health

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Fyi – interesting.

Here is the abstract. The article is attached.
Forming a successful public health collaborative: A qualitative study
Background: Coordinated approaches are needed to optimally control the spread of resistant organisms across facilities that share patients. Our goal was to understand social tensions that may inhibit public health–led community partnerships and to identify factors for success.
Methods: A collaborative to control transmission of multidrug-resistant organisms (MDROs) was formed in Utah following a regional outbreak, with members from public health, hospitals, laboratories, and transport services. We conducted and qualitatively analyzed 3 focus groups among collaborative stakeholders to discuss their experiences.
Results: Via 3 focus groups and additional interviews, we found the collaborative made institutional tensions between stakeholders explicit. We identified 4 factors that facilitated the ability to overcome institutional tensions: public health leadership to establish a safe space, creation of cross-institutional group identity with mutual respect and support, standardized communication, and group cohesiveness through shared mental models of interdependencies.
Discussion: Stakeholders' concerns regarding being blamed for MDRO transmission versus contributing to shared health care community MDRO control efforts resembled a "prisoner's dilemma." Four social components mitigated tensions and facilitated cooperation in this public health–led collaborative.
Conclusions: This study identified strategies that public health-led coordinated approaches can use to facilitate cooperation

Happy Friday :-)
Sara

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Major Article

Forming a successful public health collaborative: A qualitative study

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Key Words:
Social dilemma
Multidrug-resistant organisms
Partnerships

Background: Coordinated approaches are needed to optimally control the spread of resistant organisms across facilities that share patients. Our goal was to understand social tensions that may inhibit public health–led community partnerships and to identify factors for success.

Methods: A collaborative to control transmission of multidrug-resistant organisms (MDROs) was formed in Utah following a regional outbreak, with members from public health, hospitals, laboratories, and transport services. We conducted and qualitatively analyzed 3 focus groups among collaborative stakeholders to discuss their experiences.

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Discussion: Stakeholders' concerns regarding being blamed for MDRO transmission versus contributing to shared health care community MDRO control efforts resembled a "prisoner's dilemma." Four social components mitigated tensions and facilitated cooperation in this public health–led collaborative.

Conclusions: This study identified strategies that public health-led coordinated approaches can use to facilitate cooperation.

Antibiotic resistance is a significant and growing public health issue. Multidrug-resistant organisms (MDROs) can travel widely across the health care continuum as patients move from 1 health care setting to another.[1] Regional coordinated approaches may be the best method for preventing the spread of resistant organisms across facilities.[2] Although most collaboratives focus on reducing infections and championing best practices *within* facilities, public health–led collaboratives to prevent regional MDRO transmission must engage and implement best practices *across* facilities.

Studies of state- and country-led collaboratives to prevent pathogen transmission have been published, and their methods have varied.[3-5] Israel successfully controlled the spread of carbapenem-resistant Enterobacteriaceae (CRE) with a national "top-down" approach mandating robust infection control and surveillance.[4,5] The spread of CRE across Indiana and Illinois in 2008 was identified through molecular epidemiology and social network analysis.[1] Others have used a modified network analysis to promote coordinated efforts by facilities and public health.[5] Rural settings in South Dakota fostered transparent hospital and public health relationships to curb CRE transmission in 2012 with surveillance, communication, and antimicrobial stewardship.[6]

Despite successes in reducing community MDRO transmission, there has been little focus on the factors that mediate the success of collaborations that include different and competing health care stakeholders. In the context of controlling the transmission of MDROs across health care systems, individual health care facilities face many unique conflicts, from sharing limited resources to potential reputational risks to loss of business from referring facilities. Such tensions between the short-term interests of individual actors and the long-term public

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good—sometimes referred to as "social dilemmas"—require careful institution-building to address.[7,8]

Our objective was to conduct a qualitative study to explore how an effective public health–led collaborative to reduce regional MDRO transmission overcame challenges.

METHODS

The methods are presented here in 3 parts: (1) the context and creation of the Utah Collaborative for Regional MDRO Prevention (hereafter referred to as the Collaborative), (2) the tools developed as part of the Collaborative, and (3) the qualitative methods and procedures for the evaluation.

Context and overview of the Collaborative

In 2009, Utah experienced a multifacility outbreak of carbapenem-resistant *Acinetobacter* (CRA) that highlighted the importance of communicating information about resistant organisms to public health and transfer facilities. Regional transmission of CRA led to the creation of the Collaborative (Fig 1). Prior to this, public health and the wider health care community might only learn about the spread of select MDROs such as CRA via voluntary disclosure by individual facilities, as there was no mandate to report. The goals of the Collaborative were to establish standardized communication regarding the infectious status of shared patients at facility transfer and regional situational awareness of CRE/CRA. In 2012, the Utah Department of Health (UDOH) sought and received funding to compensate facilities—from acute to long-term care—to engage in a multidisciplinary group with public health, transport services, and laboratories for regional MDRO control. This article reports their experience.

Tools developed during the Collaborative

After mandated CRA/CRE reporting was added as a legislative rule in 2013 at the request of infection preventionists,[9] data elements for a transfer form (which can be viewed at http://health.utah.gov/epi/diseases/HAI/resources/Interfacility_Transfer_Form.pdf) were agreed upon to standardize communication. Health care personnel with a role in communicating standardized information regarding infectious status during patient transfer—such as medical transport personnel—were identified. Infection prevention practices that included risk considerations across different institutional care processes were also disseminated. To increase shared awareness and improve detection of aberrations, informatics tools were used to create exposure network graphs that could alert public health officials to potential outbreaks[1] (Fig 2).

Qualitative evaluation of the Collaborative

The experience of participants through the CRA outbreak and the Collaborative experience from 2009-2014 were evaluated using focus groups and semi-structured interviews.

Study design and participants

We conducted 3 focus groups between September-December 2016 with the goal of identifying effective public health and community partnership strategies. Fourteen Collaborative members (out of the original 45 members) agreed to participate and gave informed consent. Participants included state and local public health epidemiologists, infection preventionists, nurses, physicians, administrators, a housekeeping services manager, an emergency medical transport supervisor, a laboratory director, and health–care facility stakeholders from both acute and long-term acute care (LTAC) hospitals. Each focus group was constructed with the goal of maximizing diversity. Follow-up single-subject interviews were conducted by phone using a semi-structured approach (n = 5). These interviews served to extend and validate the results from the focus groups. Institutional review boards approved all procedures. No direct compensation was offered, but participation included a light meal.

Procedures and data collection

Focus groups were facilitated by an experienced investigator and an assistant using the following rules for conducting focus groups: (1) clear statement of purpose and use of a script; (2) minimization of status differences; (3) moderating processes that minimize argument or cross-talk; (4) frequent reminders to participants that their contribution is important; (5) strategies to encourage equal participation, such as "go-arounds"; and (6) periodic summarization of content to confirm contributors' points.[10,11] After an introduction to the group, a conversation to break the ice was held and the purpose of the study explained. A script was developed by the author group and included questions to elicit information about stakeholders' experiences, perceptions, and beliefs regarding the functioning of the Collaborative. Focus groups lasted 75 minutes in total and were recorded and transcribed with identifying information removed.

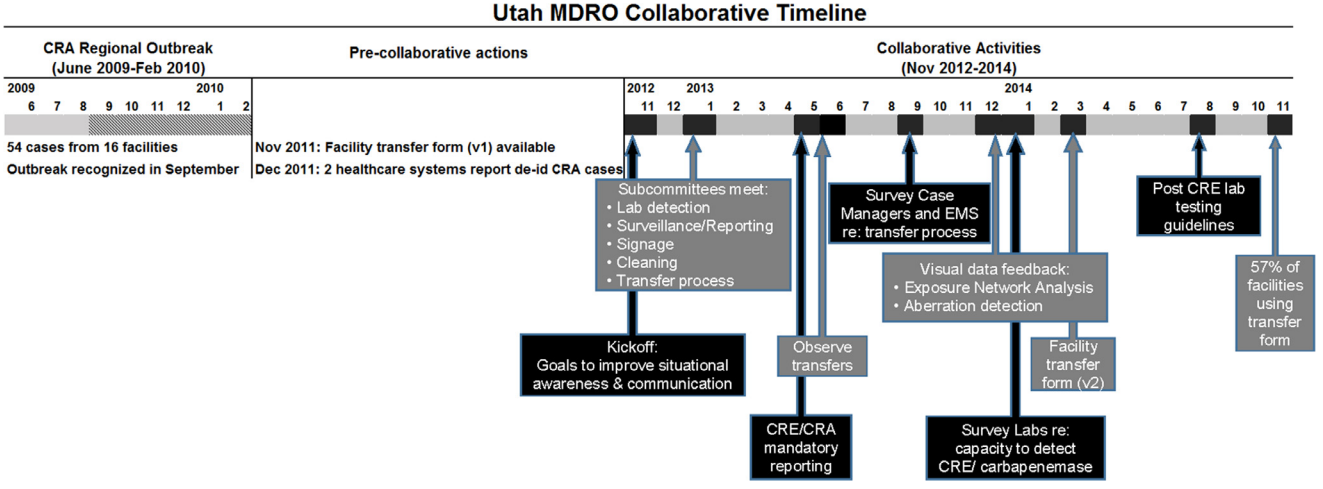
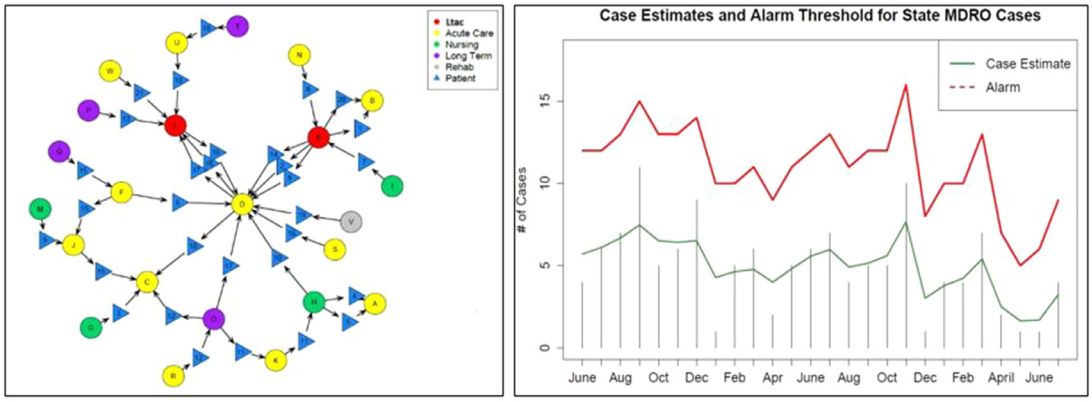


Fig 1. Timeline of the Utah MDRO Collaborative, including the impetus from the initial outbreak. *CRA*, carbapenem-resistant *Acinetobacter*; *CRE*, carbapenem-resistant Enterobacteriaceae; de-id; de-identified; *EMS*, emergency medical services; *MDRO*, multidrug-resistant organism.



Exposure network analysis graph that shows transfers of CRA cases across facilities

Aberration detection models with case estimates and alarm threshold for Utah CRA cases

Fig 2. Data visualization tools created during the Collaborative. *CRA*, carbapenem-resistant *Acinetobacter*; *LTAC*, long-term acute care; *MDRO*, multidrug-resistant organism; *rehab*, rehabilitation.

Data analysis

Qualitative analysis used a modified version of grounded theory with the goal of identifying emergent constructs.[12] Initially, multiple reviewers independently reviewed the text, identifying key concepts using "precodes." The precodes were iteratively discussed across many meetings until agreement was achieved on constructs. The constructs and their associated quotations were again reviewed through discussion to identify emergent themes. Further aggregation and analysis with discussion supported the emergence of salient themes.[13,14]

RESULTS

Five themes from the qualitative analysis are discussed below.

Theme 1: The Collaborative made interinstitutional tensions in regional MDRO coordination explicit

Participants identified 2 forms of tension pertaining to coordinating regional control of MDRO transmission. The first was the tension between the transparency to report infections for the larger public good and the potential risk to the reputation of their own institutions. It was clear that individual health care facilities felt blamed for MDRO outbreaks and had negative financial and reputational consequences. According to 1 LTAC epidemiologist, "The LTAC situation is so challenging and political. They depend on referral and feeder systems, so if [an acute-care facility] stands up and says, 'We don't like you, you're sending us all the patients [with MDRO],' the LTAC will wither away and die because it will choke them … Any of the hospitals know that." In addition, this LTAC epidemiologist went on to say, "Every hospital had their own set of patients with MDROs, and there was transmission going on at some level in their own hospitals. And so, when 3, 4 hospitals send patients to the LTAC, then the LTAC becomes 4X rather than 1X … At that point, people started openly blaming [the LTAC] to be the place where the transmission [took place]."

Second, participation in the Collaborative itself was a source of tension for infection preventionists, as they experienced conflicts juggling their normal duties with the extra Collaborative work. Some felt they were shortchanging their institutions, which led them to question their loyalties, and some resented the encroachment on their personal time. The conflict between allegiance to the facility and contributing to the overall community good was amplified if institution administrators failed to appreciate the additional resources needed for success. According to hospital infection control, "Every time I was involved with the Collaborative, it came at the expense of the hospital and my personal free time . . . That's my time with my family or hobbies, so I'm becoming more protective, and it comes out of years of doing all this extra stuff." In addition, "We haven't, even with all this work and all this history and all this collaboration we've done for many years, it hasn't translated into more help . . . You feel the passion, and then you have to start saying, 'I can't.'"

Theme 2: Public health leadership created a safe space by serving as a trusted broker to the Collaborative members

Although stakeholders shared a common goal of preventing the spread of infections, competition and logistical challenges persisted. Public health helped by reaching out to Collaborative members as a neutral, nonjudgmental partner and trusted broker. Because the health department convened meetings and aggregated data in a nonaccusatory manner, they created a structure for listening to all stakeholders' challenges and requests. As a result, individual facilities became increasingly transparent, with less fear of being "scapegoated." According to 1 LTAC MD, "What helped us [is] the state became sort of an honest broker and a mediator [others agree]—because you know there's competition among the systems . . ." As stated by UDOH, "At the health department, we're sort of a convener that's trying to get everyone to collaborate, so I think we're sort of the glue in a way that tries to put things in a neutral setting . . . And to sort of smooth out that competitive aspect—in other words to get people to work together for the common good. We see that as our role."

Theme 3: A cross-institutional group identity emerged with high levels of mutual empathy and support

Participants from different health care roles and systems reported a camaraderie and sense of "groupiness," with less finger-pointing and more transparency and empathy. Members remarked that ongoing face-to-face meetings were important for maintaining a personal connection. According to hospital infection control, "One of the most important things that the Collaborative did was it really put everybody on the same team . . . It's a very blameless culture . . . It's a place to get help, not to be worried about what others know about what's going on in your facility." In addition, "We want to help each other . . . [Acute care facility E] tried to have some relationships with some long-term care facilities, but … [the long-term care] staff was

changing so fast, lots of times they didn't have infection control at all." As stated by the local health department, "From my perspective, the facilities, seeing the challenges they run into has been really helpful for me because I'm not working in those types of settings and I don't see those types of challenges. I think it's been helpful to develop that bond."

A sense of mutual responsibility was a necessary component of "groupiness," and led infection preventionists from large health care systems to feel it was their duty to assist smaller rural and long-term care facilities.

Theme 4: Standardizing communication was challenging but necessary for drawing attention to the infectious status of patients as they moved across health care facilities

Members reported breakdowns in communicating infectious status of patients transferred across sites. Participants noted key information was often not available, especially if access to the sending facility's medical record system was limited. Staff and providers did not always recognize the key data to share, and there were testing delays or differences in defining resistant organisms. Facilities sharing patients often had different electronic record systems with obstacles to communication, and printed information got lost during a transfer. According to hospital infection control, "If you are receiving a patient from maybe a skilled facility that doesn't have electronic documentation . . . you're not given the whole back picture." In addition, according to the local health department, "It may be several days before we're notified of a patient's actual culture with resistance results . . . then ensuring that facilities are notified and are aware and are taking precautions."

Members standardized information flow by developing a transfer form and by encouraging transporters to ask for and pass on infection data. The form reinforced the information important to exchange, such as MDRO status, symptoms, and precautions. Members noted that information exchange posed a differential burden across institutions, and although the form was promoted, its use was not mandated, and implementation varied across facilities. As stated by UDOH, "Every facility is sort of different in the way that they do things, and it's hard to add one more form to that and get people to use it regularly. I mean it's not that it's a difficult form, but to get all the people to use it the right way . . . It's complicated . . . We have to figure out other ways to notify facilities of these people that's [*sic*] easier for workflow."

Theme 5: Group cohesiveness required a shared mental model of stakeholders' mutual dependencies

At the outset, even though it was recognized that cooperation was necessary and beneficial for all, participants acknowledged they sometimes had a "hunkered down" attitude. Stakeholders admitted they blamed—and even feared—other facilities for the resistance problem. This changed when the state health department created exposure network diagrams illustrating the multiple facility connections with regional transmission of resistant bacteria (Fig 1). These graphics gave stakeholders a visual "big picture" of the extent to which MDRO patients were shared across all types of facilities. Participants recalled their "eureka" moment when they realized their previous approach to preventing infections was so limited. According to hospital infection control, "A lot of people were actually surprised. I was, when I looked at the diagram, of the number of interfacility transfers that went from [facility D] to the care center . . . to [facility H] back to the care center . . . I don't think we realized the extent of the movement because we always think, well, certain care centers only accepted patients from certain hospitals, when, in fact, it was all over the place." In addition, "The openness of flow of information takes the stigma away from facilities struggling with an issue; they are free to ask for help and guidance."

DISCUSSION

Our study identified the complexity of how collaboratives develop and what mechanisms may be important when creating a regional public health–led collaborative. First, stakeholders confirmed that they faced a social dilemma regarding information-sharing about their facility's role in MDRO outbreaks. We found that interfacility support, formation of a group identity, standardizing methods to communicate, shared mental models, and leadership by an impartial trusted broker were key to mitigating interinstitutional tensions and creating a successful public health–led collaborative.

Prior to the Collaborative, the regional community of health care systems resembled a complex version of the "prisoner's dilemma."[15] Mutual cooperation via information sharing would have facilitated optimal regional MDRO control, but transparency on the part of individual actors carried no guarantee of reciprocity from others in the health care system and came with reputational and financial risks. Mutual noncooperation constituted a "middle path" that avoided the consequences of being identified as a source of MDRO transmission while also forgoing the benefits of information-sharing.

The Utah Collaborative's experiences are congruent with classic arguments in the social dilemma literature.[2,16,17] Some research in this area has found that the most effective and cooperative institution-building emerges from the bottom up rather than the top down.[16-18] This matches the Collaborative participants' expressed attitudes of collegiality and desire to work together to limit infection transmission, which only increased over time as members got to personally know and trust each other. Significantly, participants still found value in the Collaborative despite an increase in workload without an appropriate corresponding increase in resources from their institutions or external funding for MDRO-related activities. In addition, the literature also suggests that punishment for violating norms can improve collaboration.[19] Mandatory reporting of health care–associated infections not only requires that institutions report to avoid financial and compliance penalties but may also motivate participation in collaboratives to improve high infection rates.

Communication is crucial for fostering trust and for ensuring that collaboratives operate effectively.[7,20,21] Knowledge sharing is key to the success of collaboratives in general. The incentive to share information varies as a function of social motivation (pro-self vs pro-community).[22] Pro-community social motivation is enhanced through accountability and an increased emphasis on shared outcomes. The work of the Collaborative evolved to emphasize accountability through transparent mandatory reporting and by showing all facility stakeholders the extensive movement of patients across systems, as illustrated in the exposure network graphs. The result was an increased awareness of shared outcomes. This effect of shared information is also supported by research in the area of motivated information process in groups, which identifies 2 categories of group motivation that are present in every group interaction: social interaction and knowledge sharing.[23] Effective group processing involves addressing both social motivation (social group processing and bonding) and information needs to improve group decision-making.[23,24]

"Meta-information" regarding what others know, who is responsible, and where resources are delivered is a vital component of group knowledge. Such knowledge allows members to minimize effort: they do not have to know everything themselves, but instead simply remember who knows how to perform a specific task.[25] This kind of knowledge emerges as groups

become more cohesive and mature, a process evident in the development of the Utah Collaborative.

Public health leadership was critical to the success of the Collaborative. The willingness of public health to learn about and experience challenges faced by health care personnel encouraged transparency from community partners. In addition to acquiring funding, important functions performed by public health included sharing of MDRO information across facilities in a nonadversarial manner, providing targeted education on feasible infection prevention practices in the appropriate health care setting, and creating social network graphics to visually describe collective MDRO transmission. In these activities, the health department served as an important knowledge source and a neutral, supportive facilitator.

CONCLUSIONS

The success of health care system–wide MDRO management can be threatened by the variety of social dilemmas faced by individual facilities, each of which must weigh the benefits of cooperation against the reputational and financial costs of full transparency about outbreaks. Enhancing participants' social motivation and knowledge sharing needs is important for resolving these social tensions. Public health agencies play a critical role in providing a safe space for community stakeholders to collaborate and in creating strong information environments (eg, provision of data to stakeholders). Other crucial components that should be considered when establishing a public health–led collaborative include acting to create a group identity, standardizing communication strategies, and encouraging group cohesiveness with shared mental models of stakeholder interdependencies.

Acknowledgments

We would like to thank the following employees of UDOH for their development of the Collaborative's tools: Jordan Piper (exposure network graph and aberration detection model) and Louise Eutropius and Felicia Alvarez (transfer form). Figure 2 was reproduced with permission from UDOH.

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From: Poel, Amy J (DOH)
Sent: 1/10/2019 9:30:15 AM
To: AFM Info (CDC)
Subject: RE: AFM case counts

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Got it. Thanks.

Amy

From: AFM Info (CDC) [mailto:AFMinfo@cdc.gov]
Sent: Thursday, January 10, 2019 9:23 AM
To: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>
Subject: RE: AFM case counts

Hi Amy,

The total number I have for Washington matches your numbers (with the newly identified case).

I actually received some classifications for the 2 pending PUIs yesterday so that will leave only this newest case as pending.
1) WAAFM18008 – classified as not a case. Per review by the neurologists, tone was documented as normal and although the patient had mild weakness, it was not flaccid. The patient also had very subtle changes on MRI and not consistent with AFM.
2) WAAFM18012 – classified as a confirmed case of AFM.

With the newly confirmed case, WA now has 11 confirmed AFM cases and this is the number that will be included on the map update for Monday. If you have any other questions, please let me know.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
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From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Thursday, January 10, 2019 11:07 AM
To: AFM Info (CDC) <AFMinfo@cdc.gov>

Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>
Subject: AFM case counts

Adriana,

For 2018, I now have (with the new suspect case WAAFM18013), 13 AFM cases for WA State-10 confirmed and 3 suspect. Am I correct that Washington is still waiting for confirmation by CDC of WAAFM18008 and WAAFM18012. Does this match up with what you have?

Thanks,

Amy

Amy J. Poel
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Gender Pronouns: She/Her
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Chihara, Izumi (DOH)
Sent: 12/20/2018 8:35:07 AM
To: Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH),Bixler, Danae (CDC/DDID/NCHHSTP/DVH),Fuller, Mackenzie S (DOH Fellow),Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH),Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH)
Subject: RE: B18WA followup call

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Good morning, Dr. Drobeniuc and Dr. Bixler,

The investigations for HDV cases just started, and we have not been able to obtain the specimens yet.
One specimen is coming this week, so I will send it to you next week.

I am working on the line list for the HDV cases. I will send it to you when I am able to.

Thank you,
Izumi

Izumi Chihara, MPH, PhD
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<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) [mailto:jqd6@cdc.gov]
Sent: Thursday, December 20, 2018 7:17 AM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>; Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Dear all,
I checked the incoming today again, and there are no new samples from WA state yet. Have you sent them?
Thank you.
Jan

From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>
Sent: Thursday, December 20, 2018 10:07 AM
To: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hi, MacKenzie, thanks for the line list.

Can we also discuss the HDV cases on the call? If they are part of a different outbreak, we should make sure the lab samples get a different study code so there is no confusion.

From: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>
Sent: Wednesday, December 19, 2018 7:20 PM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hi Dr. Bixler

Currently, the hepatitis D cases are not part of this outbreak. Attached is a de-identified linelist of our outbreak cases.

Best,

Mackenzie

From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) [mailto:nqd0@cdc.gov]
Sent: Wednesday, December 19, 2018 8:06 AM
To: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hello, it sounds like there are additional cases since last time, possibly including coinfection with hepatitis D. We often find it very helpful to have an updated line list (without names, please) to discuss during outbreak conference calls. Thanks for considering whether that might be useful in this case.

-dee

-----Original Appointment-----
From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH)
Sent: Monday, December 17, 2018 3:28 PM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH); Fuller, Mackenzie S (DOH Fellow); Chihara, Izumi (DOH); Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH); Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH); Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH)
Cc: DeBolt, Chas (DOH); Hawkins, Vivian (DOH); Betsy Bertelsen; Oltean, Hanna (DOH); Anna Halloran
Subject: B18WA followup call
When: Thursday, December 20, 2018 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Skype Meeting

.....

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(855) 348-8390 (Atlanta Dial-in Conference Region) English (United States)

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Conference ID: 67392340
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[!OC([1033])!]
.....

From: Lopez, Adriana (CDC/DDID/NCIRD/DVD)
Sent: 1/3/2019 1:02:55 PM
To: Poel, Amy J (DOH)
Subject: RE: AFM quotes

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attachments\02099322DB8C46C3_image005.png

attachments\4F0A72ECBDC24000_image004.png

attachments\C51BC25555224AFB_image001.png

attachments\2B7F8E8408444248_image002.png

Thanks Amy! We normally would do that but because of our incident command structure for the response, it went to Dr. Clark directly. Sorry again! We will be sure to give you all a heads up if we get additional requests.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Thursday, January 3, 2019 12:52 PM
To: Lopez, Adriana (CDC/DDID/NCIRD/DVD) <ail7@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (CDC doh.wa.gov) <mike.boysun@doh.wa.gov>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: RE: AFM quotes

It would be ideal if the CDC PIO gave the DOH PIO a heads-up when they receive a request from local media. The county health department had no idea about this story.

Amy

From: Lopez, Adriana (CDC/DDID/NCIRD/DVD) [mailto:ail7@cdc.gov]
Sent: Thursday, January 3, 2019 7:56 AM
To: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (DOH) <Mike.Boysun@DOH.WA.GOV>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: RE: AFM quotes

Hi Amy,

I believe the request came from our media office before the holidays and they sent Dr. Clark a list of questions via email that he responded to. I am sorry that we didn't let you

know about this request at the time. If you have any specific questions, please let me know.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Wednesday, January 2, 2019 6:33 PM
To: Lopez, Adriana (CDC/DDID/NCIRD/DVD) <ail7@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (CDC doh.wa.gov) <mike.boysun@doh.wa.gov>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: AFM quotes

Adriana,

Do you know if Dr. Clark talked with the reporter of this story or if these quotes were pulled from general information that has been given out by CDC about AFM?

https://komonews.com/news/local/hes-one-of-the-luckier-ones-4-year-old-diagnosed-with-rare-illness-plaguing-wash

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
Washington State Department of Health
Amy.Poel@doh.wa.gov
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<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Marlow, Mariel Asbury (CDC/DDID/NCIRD/DVD)
Sent: 1/16/2019 1:16:42 PM
To: Sanders,Kelsey (DSHS,Leos,Greg (DSHS,Zahn, Matthew,Cheung, Michele (Orange # 2,Harriman, Kathleen,Lopez, Karla (Imperial County,Clancey Hill,Susan Robinson,Tricia Foster,DeBolt, Chas (DOH),Marshall Vogt,Reid, Heather,Morgan, Jodi,Kristine Oines,Sokol, Theresa (CDC la.gov),Pritchard, Scott,Paula Kriner,Byers, Paul,Anderson, Jannifer,Anderson, Lisa,Shearer, Eric,Poser, Sarah (CDC/DDID/NCIRD/DVD),Hickman, Carole (CDC/DDID/NCIRD/DVD),Shuford,Jennifer (DSHS),Gaul,Linda (DSHS),Kauerauf, Judy (CDC illinois.gov),Dametreea Carr,Tupy,Shawn (DSHS),Layden, Jennifer (CDC illinois.gov),Lopez, Adriana (CDC/DDID/NCIRD/DVD),Lee, Adria (CDC/DDID/NCIRD/DVD) (CTR),Gamez,Monica (DSHS),Jeremy Budd,Laurie.Billing@odh.ohio.gov,Leung, Jessica (CDC/DDID/NCIRD/DVD),Clemmons, Nakia (CDC/DDID/NCIRD/DVD),Thomas, Ebony,Adam, Carolyn,McNall, Rebecca J. (CDC/DDID/NCIRD/DVD)
Subject: Follow up - Mumps in immigration detention facilities

attachments\0CB283415F5F47D3_Summary_call with jurisdictions_d_PRDTOOL_NAMETOOLONG.docx

Hi All,

Thank you for participating on the call on Monday on mumps cases in immigration detention facilities. Attached is the call summary for your reference.

As discussed on the call, we are asking that all jurisdictions with ongoing outbreaks (last case onset within last 25 days, i.e. cases since 12/22/18) send the following information to Jessica Leung (ctf2@cdc.gov) by noon tomorrow (1/17):

- # confirmed and probable cases among detainees and staff since September 1, 2018
- # facilities with cases (and name/type of facility – ICE-run facility, private detention facility, correctional facility that houses detainees)
- #(%) cases resulting from within facility transmission (i.e. case was only in the detention facility during their incubation period)
- First and last case onset date for each facility
- If any of the facilities have recommended vaccination, if so, what was the recommendation and how many doses were administered
- Complications/hospitalizations

Please note that we will be making these data requests once a week moving forward and will have a follow up call on 1/28 (invite will be sent closer to the date). Jessica will also be following up with jurisdictions on lab information to track genotype results.

Some key updates since the call:

1) Diana Elson (Diana.Elson@ice.dhs.gov, and copy Brandy.Cloud@ice.dhs.gov and Dakota.McMurray@ice.dhs.gov) from ICE Health Service has asked that we provide her contact information as a POC; she is a great resource for working with the facilities, and specifically can help with the following:
- Contacting and coordinating with any facility that houses detainees
- Procuring and paying for vaccine for detainees (*CDC can assist with vaccine for staff or other non-detainee at increased risk because of an outbreak in these facilities)
- Tracking information on detainees, such as case transfer history

Before reaching out to ICE HS it is helpful to first determine which agency (ICE, US Marshall, Corrections) has legal custody of the person, since ICE can only assist with cases in their custody. ICE Health Services is maintaining a line list of cases in ICE detainees and may also be reaching out for more information on cases that may not have been captured in their system (e.g. detainee cases at correctional facilities).

2) ICE HS is also going to release updated guidance shortly that includes guidance for facilities to notify their local health department when they have mumps cases and also when cases are transferred. Since the local facility may not know where the case or exposed detainee was transferred to – you can contact ICE HS (Diana) directly and they can provide information on the detainee's transfer.

3) To avoid double counting cases that may have been transferred, the jurisdiction where the cases' parotitis' onset occurred should report the case. For reporting cases in immigration detention facilities in NNDSS, moving forward, if all jurisdictions could please select "other" for transmission setting and specify the letters IDF, for immigration detention facility.

Please feel free to reach out with any questions.

Thank you,
Mariel and Jessica on behalf of the Mumps Team

Mariel A. Marlow, PhD, MPH
Epidemiologist
Measles, Mumps, Rubella, Herpesvirus and Domestic Polio Team
Viral Vaccine Preventable Diseases Branch / Division of Viral Diseases
National Center for Immunization and Respiratory Diseases
US Centers for Disease Control and Prevention
Phone: (404)639-4731
Email: KLT8@cdc.gov

From: Poel, Amy J (DOH)
Sent: 1/3/2019 9:52:22 AM
To: Lopez, Adriana (CDC/DDID/NCIRD/DVD)
Subject: RE: AFM quotes

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attachments\AD32DC49D51741C9_image005.png

It would be ideal if the CDC PIO gave the DOH PIO a heads-up when they receive a request from local media. The county health department had no idea about this story.

Amy

From: Lopez, Adriana (CDC/DDID/NCIRD/DVD) [mailto:ail7@cdc.gov]
Sent: Thursday, January 3, 2019 7:56 AM
To: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (DOH) <Mike.Boysun@DOH.WA.GOV>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: RE: AFM quotes

Hi Amy,

I believe the request came from our media office before the holidays and they sent Dr. Clark a list of questions via email that he responded to. I am sorry that we didn't let you know about this request at the time. If you have any specific questions, please let me know.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Wednesday, January 2, 2019 6:33 PM
To: Lopez, Adriana (CDC/DDID/NCIRD/DVD) <ail7@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (CDC doh.wa.gov) <mike.boysun@doh.wa.gov>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: AFM quotes

Adriana,

Do you know if Dr. Clark talked with the reporter of this story or if these quotes were pulled from general information that has been given out by CDC about AFM?

https://komonews.com/news/local/hes-one-of-the-luckier-ones-4-year-old-diagnosed-with-rare-illness-plaguing-wash

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
Washington State Department of Health
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<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Poel, Amy J (DOH)
Sent: 1/11/2019 2:39:52 PM
To: VPDsurvELC@cdc.gov
Subject: ELC R1 Q4 2018 Surveillance Summary

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attachments\B29C279B02A2462D_image003.png

Holly,

Attached is the ELC R1 Q4 2018 Surveillance Summary.

Please let me know if you have any questions or concerns,

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
Washington State Department of Health
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<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP)
Sent: 1/11/2019 9:21:50 AM
To: D'Angeli, Marisa (DOH),Benoliel, Eileen
Subject: RE: Clinical consult triple carbapenemase WA 0316073

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attachments\FB9A2797E79F4F04_image001.png

attachments\4AF04D522FFC4079_image003.png

attachments\A3298933C5444BB5_image002.png

attachments\6E631A1749244536_image004.png

Hi, just to be clear, I can discuss additional testing of the isolate if that is useful but am not able to provide clinical advice.
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:19 PM
To: Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: Clinical consult triple carbapenemase WA 0316073

Hi Eileen,
Please see the email below. Dr. Alex Kallen at CDC will provide clinical consultation to your ID doctor and can offer additional drug testing upon request.

Since this process is new—new AST testing, and clinical consultation for treatment—I'd really appreciate being included in the communication so I can learn. I assume PHSKC would also like to be included too.

I'll let you take it from here.
Best,
Marisa

Marisa D'Angeli, MD, MPH
Medical Epidemiologist
Office of Communicable Disease Epidemiology
Healthcare Associated Infections and Antibiotic Resistance Program
Disease Control and Health Statistics
Washington State Department of Health
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206-418-5500 | 877-539-4344
<https://twitter.com/wadepthealth?lang=en>

<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

Subscribe to [GovDelivery topic name]

From: Lonsway, David (CDC/DDID/NCEZID/DHQP) [mailto:dul7@cdc.gov]
Sent: Friday, January 11, 2019 8:51 AM
To: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>
Cc: Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>
Subject: RE: PCR testing of MaConkey broth

Mike,

We are testing other drugs here at CDC for this isolate. If other drugs are needed for patient care, the physician will need to contact us (Dr. Alex Kallen is our clinical consultant; cc'd here).

David

From: Poel, Amy J (DOH)
Sent: 1/10/2019 8:06:54 AM
To: AFM Info (CDC)
Subject: AFM case counts

attachments\B62F4878016C41E2_image012.png

attachments\478AC9C35A4E4010_image013.png

attachments\878856A2156B41F5_image015.png

attachments\490E10F57770412E_image014.png

attachments\031B690A3CBD4B1C_image011.png

Adriana,

For 2018, I now have (with the new suspect case WAAFM18013), 13 AFM cases for WA State-10 confirmed and 3 suspect. Am I correct that Washington is still waiting for confirmation by CDC of WAAFM18008 and WAAFM18012. Does this match up with what you have?

Thanks,

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
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<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Marlow, Mariel Asbury (CDC/DDID/NCIRD/DVD)
Sent: 12/20/2018 2:48:48 PM
To: DeBolt, Chas (DOH)
Subject: Mumps ELC info

attachments\245E471371904909_ELC Tier II Mumps FY19 Kick Off Call_pic.pptx

attachments\FC89D96F627E4147_Mumps Spreadsheet_ELC Tier2_FY18_w_dropdowns.xlsx

attachments\33D7EAE9A79144CB_ELC Mumps Tier 2 Kick Off Call Notes_19Oct18.docx

attachments\89D4C72811794EF9_Mumps Spreadsheet_ELC Tier2_FY18.xlsx

attachments\96AFC78F776848E9_Instructions for Completing the M_PRDTOOL_NAMETOOLONG.docx

Hi Chas,
I hope this isn't complicating things to send you the whole package – attached are the documents from the ELC kickoff call, including the requested data entry form. Below you will find the specific data variables of interest and other submitting instructions.
Please let me know if you have any questions. Really appreciate your time on this; I know it puts an extra burden mid-staff change over. Happy to have a call to discuss if that makes it easier – 404-639-4731.
Thanks so much,
Mariel

From: Lopez, Adriana (CDC/DDID/NCIRD) <ail7@cdc.gov>
Sent: Thursday, October 25, 2018 4:47 PM
To: Alice Nyakeriga <alice.nyakeriga@ky.gov>; Amanda Metz <amanda.metz@state.co.us>; Amy Poel <Amy.poel@doh.wa.gov>; Beth Isaac <bisaac@health.nyc.gov>; Blake Hendrickson <blake.hendrickson@nebraska.gov>; Carolyn Adams <carolyn.adam@dph.ga.gov>; Cassie Jones <cassandra.jones@tn.gov>; Chas DeBolt <Chas.DeBolt@doh.wa.gov>; Chelsea Raybern <chelsea.raybern@ks.gov>; Clemmons, Nakia (CDC/DDID/NCIRD) <xjb4@cdc.gov>; Constance Bourne <constance.bourne@adph.state.al.us>; Dylan Johns <dylan.johns@health.ny.gov>; Heather Reid <heather.reid@illinois.gov>; Jeremy Budd <jeremy.budd@odh.ohio.gov>; Kara Fultz <kara.fultz@phila.gov>; Soto, Kristen (CDC ct.gov) <kristen.soto@ct.gov>; Kristine Oines <kristine.oines@la.gov>; Lauren Milroy <LMilroy@isdh.IN.gov>; Laurie Billing <Laurie.Billing@odh.ohio.gov>; Lee, Adria (CDC/DDID/NCIRD) (CTR) <xda5@cdc.gov>; Marin, Mona (CDC/DDID/NCIRD) <zsn8@cdc.gov>; Marlow, Mariel Asbury (CDC/DDID/NCIRD) <klt8@cdc.gov>; Marshall Vogt <marshall.vogt@vdh.virginia.gov>; Meagan Burns <meagan.burns@state.ma.us>; Molly Howell <mahowell@nd.gov>; Mounika Bazar <Mounika.Bazar@vdh.virginia.gov>; Patel, Manisha M. (CDC/DDID/NCIRD) <dvn4@cdc.gov>; Payton Revolt <PRevolt@isdh.IN.gov>; Rob Ramaekers <robert.ramaekers@idph.iowa.gov>; Anderson, Stacey (CDC mt.gov) <sanderson2@mt.gov>; Tye Harlow <tye.harlow@state.co.us>; Wayne Fleming <wfleming@pa.gov>
Subject: ELC kick off call for Mumps - follow-up email

Hi All,

Thank you for attending the ELC Mumps Tier II Kick Off Call last Friday (10/19/18). PowerPoint slides and call summary are attached.
Please provide your feedback on items discussed on the call by responding to 10

questions at this link: https://www.surveymonkey.com/r/N97DY3D. Please provide you feedback by COB next Friday, November 2nd.

We will send out information for the next call in December closer to the date.

Instructions for data submissions:
Attached is the Excel spreadsheet template for submitting data on your jurisdiction's suspect, probable, and confirmed mumps cases. Also attached are the instructions for completing the spreadsheet. These instructions contain information related to the variables (e.g., categories, coding, format) as well as details regarding quarterly submission of the spreadsheet. If you have any questions about information not covered in the instructions, please contact Adria Lee, xda5@cdc.gov.

NOTE: the FY17 mumps activity data request was only for outbreak-related mumps cases. The current FY18 mumps activity data request is for ALL mumps cases. Additionally, some variables on the FY18 spreadsheet are new or different from the FY17 spreadsheet.
Reports should be submitted to Adria Lee via email: xda5@cdc.gov
* Data from Aug 2018–Dec 2018 (1st and 2nd quarter combined) should be submitted by Jan 18th, 2019
* Data from Aug 2018–Mar 2019 should be submitted by April 19th, 2019
* Data from Aug 2018–June 2019 should be submitted by July 19th, 2019
Please be sure to submit the following data:
1. Data on suspect cases in addition to confirmed and probable cases (preferably same data variables as reported for probable and confirmed cases; if not possible, then specifically data on parotitis onset and end dates (or parotitis duration in days), symptoms reported, specimens collected and laboratory results, epi link (Y/N))
2. Complete information on the following variables (please provide detail on any variables that you are not able to collect when providing feedback at the link above):
a. NNDSS ID (if possible)
b. Epi link (Y/N)
c. Date of first symptom onset
d. Date of parotitis onset
e. Date of parotitis end
f. Duration of parotitis (days) (*please only include # in the response (i.e., do not include "days" or <or > symbols)
g. Dates of vaccination
h. Complications (Y/N)
i. Complication onset dates
j. Date of collection for specimens
k. Date specimen(s) received at lab
l. Date specimen(s) results
m. Laboratory result(s) (including positive and negative results)
n. Type of laboratory where tested (PHL, VPD-RC, CDC, commercial)
o. Genotype (if submitted for genotyping)
If any jurisdictions are able to collect ICD10 codes for reported mumps cases (or as part of a separate outbreak/project), please let us know.

Thank you,

Mariel and Adriana on behalf of the Mumps surveillance team

Mariel A. Marlow, PhD, MPH
Epidemiologist
Measles, Mumps, Rubella, Herpesvirus and Domestic Polio Team
Viral Vaccine Preventable Diseases Branch / Division of Viral Diseases
National Center for Immunization and Respiratory Diseases
US Centers for Disease Control and Prevention

Phone: (404)639-4731
Email: KLT8@cdc.gov

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Lopez, Adriana (CDC/DDID/NCIRD/DVD)
Sent: 1/3/2019 7:55:38 AM
To: Poel, Amy J (DOH)
Subject: RE: AFM quotes

attachments\B10BDC7F11E54756_image002.png

attachments\D11DD763C411434E_image004.png

attachments\8BC3269E7AA34580_image001.png

attachments\1A52D6DFB7F94445_image005.png

attachments\76E5861E36A64563_image003.png

Hi Amy,

I believe the request came from our media office before the holidays and they sent Dr. Clark a list of questions via email that he responded to. I am sorry that we didn't let you know about this request at the time. If you have any specific questions, please let me know.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Wednesday, January 2, 2019 6:33 PM
To: Lopez, Adriana (CDC/DDID/NCIRD/DVD) <ail7@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Boysun, Mike (CDC doh.wa.gov) <mike.boysun@doh.wa.gov>; Turnberg, Wayne (DOH) <Wayne.Turnberg@DOH.WA.GOV>
Subject: AFM quotes

Adriana,

Do you know if Dr. Clark talked with the reporter of this story or if these quotes were pulled from general information that has been given out by CDC about AFM?

https://komonews.com/news/local/hes-one-of-the-luckier-ones-4-year-old-diagnosed-with-rare-illness-plaguing-wash

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics

Washington State Department of Health
Amy.Poel@doh.wa.gov
206-418-5605 | www.doh.wa.gov
Fax 206-364-1060
Gender Pronouns: She/Her
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Armstrong, Marissa
Sent: 1/14/2019 8:28:30 PM
To: Maki, Kristen E (DOH),Graham, Julie A (DOH)
Cc:
Subject: News release heads up

Hello,

Just wanted to give you a heads up (if you haven't heard) that we will be issuing a news release in the morning about two additional confirmed measles cases and 10 suspect cases.

We're expecting lab results tomorrow afternoon on most of those suspect cases, so we anticipate more public notifications Wednesday and the following days.

We're initiating ICS tomorrow morning. My team is up, so I'll remain the PIO on this investigation.

Marissa Armstrong
Communications specialist
PUBLIC HEALTH

w. 564.397.7307
c. 360.518.1731

From: Mercier, Michele (CDC/DDNID/NCCDPHP/DPH)
Sent: 1/11/2019 11:46:52 AM
To: Ellings, Amy (DOH)
Cc:
Subject: Draft Eval & Perf Msmt Plan


attachments\B18B3BD4D3F04D9E_DRAFT ADH Arthritis Program Evalu_PRDTOOL_NAMETOOLONG.pdf

Hi Amy

Per our conversation, attached is a DRAFT evaluation and performance measurement plan and DMP developed by the Arkansas Arthritis Program.

As I mentioned, I am not sharing this as an example of how such a plan should be done, or saying that it cannot be improved. In fact, they are still working on revising it. That said, I think it's a very decent effort and very much aligned with CDC NOFO expectations.

I hope you find it useful and am interested in any feedback you may have.

You may share with others in the health department working with the arthritis program as appropriate. I request that you do not share widely, as it is not a final, approved version.

Best,
Michele

Michele M. Mercier, MPH
Project Officer, Arthritis Program
Arthritis, Epilepsy, and Well-Being Branch
Division of Population Health
National Center for Chronic Disease Prevention & Health Promotion, CDC
zaf5@cdc.gov
770.488.4112

Arkansas Department of Health (ADH) Arthritis Program Evaluation and Measurement Plan, 2018-2023 (DP18-1803)

Arkansas Department of Health

Sharada Sarah Adolph, MD, DrPH
Chronic Disease Branch Chief Epidemiologist/Evaluator

Date: 11/26/2018

Introduction

Behavioral Risk Factor Surveillance System (BRFSS) 2015 data from the Centers for Disease Control and Prevention (CDC) show that Arkansas ranks 4th among 15 states with the highest arthritis prevalence. Arkansas's arthritis prevalence is 29.7% (672,000 persons) compared to a national arthritis prevalence of 22.7%. This higher-than-national prevalence in Arkansas is attributable primarily to the very high and increasing prevalence of comorbid conditions among Arkansans, primarily obesity, heart disease, strokes, and diabetes. Arthritis prevalence among Arkansas adults with comorbid conditions, such as obesity is 37.7%; for those with coronary heart disease it is 64.6%, and for those with diabetes it is 58.9%. Arkansas adults ≥65 years of age are most affected at 52.0%, followed by those aged 45-64 years at 39.0%, and the remainder are between 18-44 years of age. Arthritis-attributable activity limitation is prevalent by 57.0% among Arkansans with arthritis. Work-limitation is seen among 55.2% of Arkansas adults with arthritis, social participation restriction is seen among 27.3%, and severe joint pain is experienced by 36.3% of Arkansans with arthritis. Data show that 32.3% of Arkansas adults report ≥14 physically unhealthy days, 21.2% report ≥14 mentally unhealthy days, and 24.4% of adult Arkansans report ≥14 limited activity days due to poor physical or mental health.

Arkansas's hospitalization costs for 11,117 adults with all forms of arthritis totaled to $125 million in 2014, with 86% of these costs attributable to osteoarthritis alone. The impact of arthritis on Arkansas's in-hospital healthcare expenditure was seen as an increase of $27 million in hospitalization costs for adult arthritis between 2006 and 2014.

In 2018, the Arkansas Department of Health (ADH) applied for and was awarded CDC's State Public Health Approaches to Addressing Arthritis (DP18-1803) funding award to reduce arthritis-related adverse health outcomes in Arkansas.

Evaluation Purpose

This evaluation purposes to determine the effectiveness of program activities at reaching proposed targets and outcomes of the Arthritis Program's four main strategies, provide recommendations to improve program outcomes, and disseminate evaluation findings for increased stakeholder collaboration to achieve program outcomes. The ADH Arthritis program is four months old at the time of this writing and work is currently in the planning and early implementation phase.

Strategy 1: Disseminate Arthritis-Appropriate Evidence-Based Interventions (AAEBI) and leverage other Self-Management Interventions. This evaluation will identify reach for dissemination and utilization of AAEBIs namely group-led and self-directed Walk With Ease (WWE) and Diabetes Prevention Program (DPP) in Arkansas.

Strategy 2: Counsel and refer patients to increase physical activity, including participation in AAEBIs and walking. Evaluation will assess bi-directional referral processes to group-led WWE and DPPs and the impact on physical activity among patients with arthritis.

Strategy 3: Promote Walking. Evaluation will track reach for people participating in WWE, DPP, and other walking programs.

Strategy 4: Raise awareness about arthritis burden and management. This evaluation will assess reach and processes for raising awareness among the general public, employees, and providers.

Overall, this evaluation will provide information directing the Arthritis Program in improving the delivery of program activities, justify program efforts and needs, and inform stakeholders on the efficacy of interventions, and suggest changes as appropriate. This evaluation will serve as a decision-making tool for program leaders.

Evaluation Team

Table 1. Roles and Responsibilities of the Evaluation Team

Individual	Evaluation Role/Responsibilities
ADH Arthritis Project Manager	• Identifies goals and objectives • Coordinates data collection and communication with partners • Discusses evaluation findings with evaluator • Oversees implementation and changes based on evaluation findings • Disseminates evaluation findings to CDC and stakeholders
ADH Arthritis Program Coordinator	• Assists Project Manager with data collection from partners • Assists with program change based on evaluation findings
ADH Chronic Disease Chief Epidemiologist/Evaluator	• Evaluation Lead • Develops and revises logic models • Reviews data submitted by partners and makes recommendations • Analyzes data and interprets findings • Evaluates program and offers recommendations

Process of Evaluation Planning

A. Stakeholder Engagement

The Arthritis Program will engage multiple partners in evaluation processes as detailed below.

Table 2. Stakeholder Assessment and Engagement Plan

Stakeholders	Interest/Want to Know	Role in Evaluation	Method of Engagement
Persons involved in program activities			
Arthritis Program staff, CDPC Branch Chief	• Effectiveness of Arthritis Program activities • WWE participation and expansion • Program reach and progress	• Define program and context • Identify data sources • Collect data • Interpret findings • Disseminate findings	• Meetings • Roles in evaluation (Table 1)
Partners: WWE sites	• Delivery of WWE among patients with arthritis	• Collect data and send to ADH • Key informants	• Meetings • Conference calls • Interviews
Persons served by the ADH Arthritis Program			
WWE participants	• Utilization of WWE programs • Participant benefits	• Provide success stories • Value assessment	• Interviews
Healthcare providers	• Utilization of WWE among referred clients • Feedback on improved well-being of their patients	• WWE referral and feedback processes	• Surveys
Intended users of evaluation findings			
ADH	• Increased access to WWE programs for patients with arthritis • Closure of referral loop (bi-directional referral) • Improved outcomes for WWE participants • Strengths and weaknesses of program	• Evaluation implementation • Interpret and review findings • Drive program decisions based on findings	• Internal and external meetings
CDC	• ADH Arthritis Program progress • Arthritis program-related performance and outcomes	• Provide guidance and technical assistance • Review evaluation progress and provide feedback • Review evaluation documents and provide feedback	• Conference calls • Meetings

B. Program Description

The ADH Arthritis Program began four months ago in July 2018 and has several components aimed at reducing arthritis-related joint pain and inactivity through WWE and other physical activity programs.

Strategy 1: The program is currently working to initiate dissemination of group-led and self-directed among WWE Arkansas state employees (Arkansas Healthy Employee Lifestyle Program [AHELP], Community Healthy Employee Lifestyle Program [CHELP]), Blue Cross Blue Shield (BCBS), Area Agency on Aging (AAA) participants, Mercy Health System, Arkansas Disability and Health Program (ADHP), Arkansas Minority Health Commission (AMHC), University of Arkansas for Medical Sciences (UAMS) Centers for Aging (COA), UAMS Department of Physical Therapy (DPT), and Fayetteville Outpatient Therapy Clinic patients and ensure sufficient capacity to continuously and sustainably deliver WWE programs to this population and expanded populations.

Strategy 2: The program is currently working with WWE delivery sites, healthcare systems, and providers to plan approaches for counseling and referral of patients to increase physical activity (PA), including participation in group-led and self-directed WWE, and other walking initiatives.

Strategy 3: The program is currently implementing activities to promote walking through WWE, Blue and You Fitness Challenge, CapitalG0! Challenge, and Walk Across Arkansas. An assessment is being done of walking initiatives for infrastructure and potential for sustainability to facilitate routine PA, and ensure initiatives address unique needs and barriers of adults with arthritis and increase walking among adults with arthritis.

Strategy 4: The program is currently working on media outlets and other methods to promote awareness of arthritis burden and walking programs.

Arthritis Program outcomes are:

1) Increased participation in arthritis-appropriate evidence-based interventions (AAEBIs)
2) Reduced, or no increased inactivity among patients with arthritis
3) Increase PA counseling about arthritis management by health professionals
4) Reduced, or no increase in severe joint pain
5) Improved health status among patients with arthritis

The ADH Arthritis Program is developing comprehensive partnerships with the following organizations/entities to assist in achieving program activities and outcomes. These include:

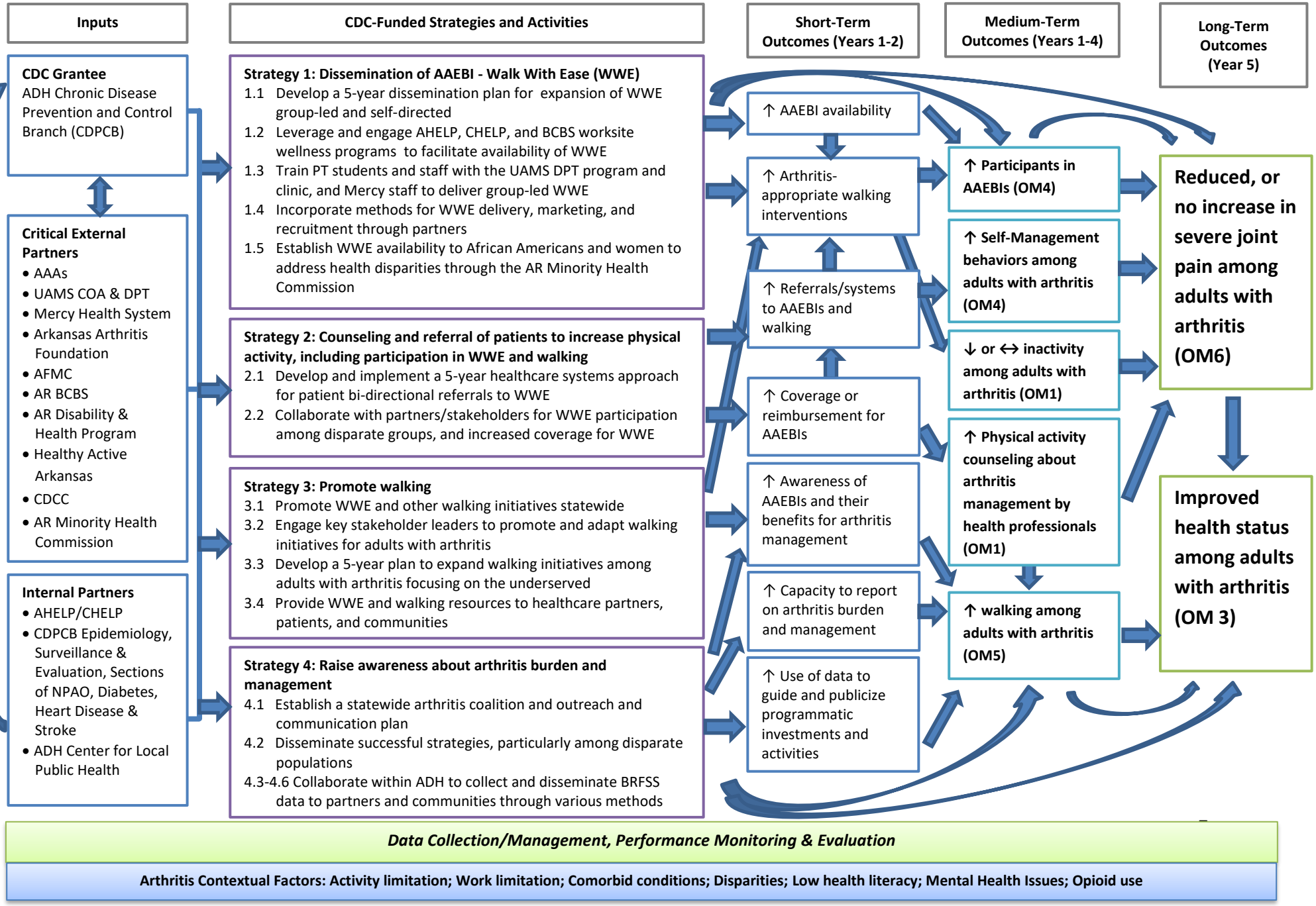
- AHELP/CHELP will help promote WWE among employees.
- Blue Cross Blue Shield Worksite Wellness program will conduct WWE workshops.
- UAMS Northwest Arkansas DPT will add WWE to their training curriculum and deliver WWE. They will participate in a workgroup to implement and disseminate counseling and referral processes in health systems.

- UAMS Reynolds Institute on Aging and Department of Geriatrics will deliver WWE in their COA and participate on the workgroup to implement and disseminate counseling and referral process in health systems.
- AAA Northwest Arkansas will implement WWE.
- East Arkansas AAA will implement WWE.
- Arkansas Minority Health Commission will promote self-directed WWE at their website.
- Arkansas Disability and Health Program will work with Intellectual and Developmental Disability Independent Living Centers to deliver WWE for their clients and will promote WWE with their annual walking program.
- Mercy Northwest Arkansas will implement WWE, promote bi-directional referral for DPP and participate on the workgroup to implement and disseminate counseling and referral process in health systems.
- Hark at the Center for Collaborative Care will promote Arthritis services and WWE on their platform.
- ADH Office of Health Communication will help design and disseminate the media campaign for strategy 4.
- Arkansas Arthritis Foundation will provide technical assistance and participate in Arkansas Arthritis Coalition (AAC) leadership.
- Arkansas Wellness Coalition will promote WWE, counseling and referral and arthritis-related tools to providers through their established process.

C. Logic Model

The logic model below shows the inputs/resources, key strategies and activities, short-term, intermediate-term and long-term outcomes for Arkansas's Arthritis Program.

State Public Health Approaches to Addressing Arthritis (DP18-1803): Arkansas's Arthritis Program Logic Model, 2018-2023



List of Abbreviations and Symbols Used in Logic Model

ADH	Arkansas Department of Health
AAA	Area Agency on Aging
UAMS	University of Arkansas for Medical Sciences
COA	Centers on Aging
DPT	Department of Physical Therapy
AFMC	Arkansas Foundation for Medical Care
AR	Arkansas
BCBS	Blue Cross Blue Shield
CDCC	Chronic Disease Coordinating Council
AHELP	Arkansas Healthy Employee Program
CHELP	Community Healthy Employee Program
NPAO	Nutrition, Physical Activity, and Obesity
AAEBI	Arthritis-appropriate evidence-based intervention
↑	Increased
↔	Maintain
↓	Decreased

C. Evaluation Focus and Plan for Collecting Credible Evidence

Several relevant questions have been formulated to evaluate the ADH Arthritis program (Table 3). Key indicator/measure data for each question will be collected and analyzed using multiple data sources. The evaluation team will utilize several methods of data collection. Primary data collection will be done through interviews, surveys, and records review, and secondary data collection will be accomplished by receipt of de-identified aggregated electronic health records (EHR) data from clinics.

Table 3. Evaluation and Performance Measurement Plan Methods

Evaluation Questions	Indicators/Measures	Data Sources	Data Collection methods	Data Collection Timing	Responsible Person: *Evaluation Type*/ Data Analysis
1. How did statewide dissemination strategies increase participation in AAEBIs among adults with arthritis to reduce physical inactivity, improve arthritis/joint symptoms and arthritis-attributable limitations?	a. % of adults with arthritis who report walking as a one of top 2 forms of exercise b. % of adults with arthritis who are inactive c. % of adults with arthritis who report severe joint pain d. % of adults with arthritis who reports activity limitation, work limitation, and social participation restriction e. % of adults with arthritis who report fair/poor health, or ≥14 unhealthy or limited activity days in the past 30 days f. No. of WWE group leaders trained g. No. of WWE self-directed trainees	a.-e. BRFSS f.-g. ADH Arthritis Program records; Partner records – AAAs, UAMS, Mercy Health System, AHELP/CHELP, BCBS, AFMC; Key informant interviews	a.-e. BRFSS Survey questionnaires f.-g. Data from program and partners activity logs and spreadsheets will be collected by the ADH. Qualitative data will be abstracted from documents and through key informant interviews.	a.-e. Annual f.-g. Monthly; Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic
2. What factors influenced healthcare provider counseling and referral of arthritis patients to AAEBIs and arthritis activity outcomes? What were the gaps in access to AAEBIs and other walking interventions for adults with arthritis and how were these addressed?	a. % of adults with arthritis who receive physical activity or exercise counseling from a healthcare provider b. % of adults with arthritis who report severe joint pain c. % of adults with arthritis who reports activity limitation, work limitation, and social participation restriction d. % of adults with arthritis who report fair/poor health, or ≥14 unhealthy or limited activity days in the past 30 days	a.-d. BRFSS e.-G. ADH Arthritis Program records; Partner records – UAMS, Mercy Health System, AFMC; Key informant interviews	a.-d. BRFSS Survey questionnaires e.-g. Data from program and partners activity logs and spreadsheets will be collected by the ADH. Qualitative data will be abstracted from documents and through key informant interviews.	a.-d. Annual e.-f. Monthly; Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic

	e. No. of patients with arthritis electronically referred to WWE group-led programs by healthcare providers f. No. of patients with arthritis electronically referred to self-directed WWE training by healthcare providers g. No. of referred arthritis patients with feedback from WWE programs on health behaviors and outcomes documented in the EHR				
3. How was awareness of arthritis burden and non-medical management of arthritis through walking interventions raised?	a. % of adults with arthritis who are inactive b. % of adults with arthritis who receive physical activity or exercise counseling from a healthcare provider	a.-b. BRFSS; ADH Arthritis Program records; Partner records; Key informant interviews.	a.-b. BRFSS Survey questionnaires; qualitative data will be abstracted from documents and through key informant interviews.	a.-b. Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic
4. What were the facilitators and barriers for implementation of the Arkansas Arthritis Program? How did partnerships with key stakeholders help to initiate and sustain the ADH Arthritis Program?	a. Facilitators and barriers	a. ADH Arthritis Program records; Partner records; Key informant interviews.	a. Qualitative data will be abstracted from documents and through key informant interviews.	a. Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Qualitative - formative, thematic

D. Data Management Plan

1) Purpose: To ensure procedures for valid and reliable data collection from non-publicly available data sources, such as electronic health records (EHRs) operated by healthcare systems, School of Physical Therapy and Centers on Aging (COA) that participate in the ADH Arthritis program.
2) Database Development and Implementation: The ADH will develop Excel databases with performance indicators/measures for participating healthcare systems and COAs to collect de-identified aggregated data. The following indicators/measures will be collected:
    - Number of WWE group leaders trained
    - Number of WWE group classes held
    - Number of WWE group participant
    - Number of WWE self-directed participants
    - Number of WWE participants by race/ethnicity, age, sex, and insurance status
    - Number of participant group-led WWE completers (6-week course)
    - Number of patients with arthritis referred to WWE group-led programs by healthcare providers documented in the EHR
    - Number of referred arthritis patients with feedback from WWE programs on health behaviors and outcomes documented in the EHR
    - Number of clinic/hospital patients and community members reached with information about WWE
3) Data Collection: Patients with arthritis will be identified using the following ICD-10 codes by designated individuals within partner organizations that deliver WWE and make referrals to external WWE programs and DPPs. It is anticipated that healthcare systems will create Arthritis databases with the help of internal or external IT support.
    - M15.9 polyosteoarthritis, unspecified
    - M16.9 osteoarthritis of hip, unspecified,
    - M16.0 bilateral osteoarthritis of hip
    - M16.10 Unilateral primary osteoarthritis, unspecified hip
    - M17.0 Bilateral osteoarthritis of knee
    - M17.9 osteoarthritis of knee, unspecified
    - M17.0 Bilateral osteoarthritis of knee
    - M17.10 Unilateral primary osteoarthritis, unspecified knee
    - M18.9 osteoarthritis of first carpometacarpal joint, unspecified
    - M18.0 Bilateral osteoarthritis of first carpometacarpal joint
    - M18.10 Unilateral primary osteoarthritis of first carpometacarpal joint, unspecified
    - M19.90 unspecified osteoarthritis, unspecified site
    - M19.079 Primary osteoarthritis, unspecified ankle & foot
    - M47.9 Spondylosis, unspecified (osteoarthritis of spine)
    - M10.9 gout, unspecified

- M10.079 gout, unspecified ankle/foot
- M06.9 Rheumatoid arthritis, unspecified
- Additional codes for arthritis will also be considered

4) Data Submission and Review: Program-participating partners will send their databases to the ADH monthly for review and monitoring of data trends and progress. Any discrepancies with submitted data will be discussed with respective partners to ensure data gaps are closed.

E. Dissemination of Evaluation Findings/Results

The ADH Arthritis Program will disseminate evaluation findings in a variety of communication formats (Table 4).

Table 4. Evaluation Findings/Results Dissemination Plan

Target Audience	Goals	Format/Channel	Responsible Person(s)
General public	• Promote program progress based on evaluation findings	• ADH website • Media tools • Program brochure	ADH Arthritis Program staff
Partners	• Present executive summaries	• Meetings • Presentations	ADH Arthritis Program staff
CDC, ADH Senior Management	• Reporting program progress and achievement of outcomes • Plan future program changes • Continue and/or enhance program funding	• Interim and annual reports • Meetings • Presentations	ADH Arthritis Program staff, Evaluator

---

From: Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH)
Sent: 12/20/2018 9:03:31 AM
To: Chihara, Izumi (DOH),Bixler, Danae (CDC/DDID/NCHHSTP/DVH),Fuller, Mackenzie S (DOH Fellow),Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH),Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH)
Subject: RE: B18WA followup call

attachments\DC03768955E04B39_image008.png

attachments\FC992E1F17E94131_image009.png

attachments\925A1876BFED4D4B_image006.png

attachments\A12BDFA29BC748A7_image010.png

attachments\2187BEA37363441F_image007.png

Ok.

From: Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>
Date: December 20, 2018 at 11:36:00 EST
To: Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>, Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>, Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>, Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>, Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>, Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>, Betsy Bertelsen <bbertelsen@srhd.org>, Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>, Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Good morning, Dr. Drobeniuc and Dr. Bixler,

The investigations for HDV cases just started, and we have not been able to obtain the specimens yet.
One specimen is coming this week, so I will send it to you next week.

I am working on the line list for the HDV cases. I will send it to you when I am able to.

Thank you,
Izumi

Izumi Chihara, MPH, PhD
Hepatitis B Epidemiologist
Office of Communicable Disease Epidemiology
Division of Disease Control & Health Statistics
Washington State Department of Health
Izumi.Chihara@doh.wa.gov
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<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>

<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) [mailto:jqd6@cdc.gov]
Sent: Thursday, December 20, 2018 7:17 AM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>; Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Dear all,
I checked the incoming today again, and there are no new samples from WA state yet. Have you sent them?
Thank you.
Jan

From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>
Sent: Thursday, December 20, 2018 10:07 AM
To: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hi, MacKenzie, thanks for the line list.

Can we also discuss the HDV cases on the call? If they are part of a different outbreak, we should make sure the lab samples get a different study code so there is no confusion.

From: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>
Sent: Wednesday, December 19, 2018 7:20 PM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) <nqd0@cdc.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hi Dr. Bixler

Currently, the hepatitis D cases are not part of this outbreak. Attached is a de-identified linelist of our outbreak cases.

Best,

Mackenzie

From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH) [mailto:nqd0@cdc.gov]
Sent: Wednesday, December 19, 2018 8:06 AM
To: Fuller, Mackenzie S (DOH Fellow) <mackenzie.fuller@doh.wa.gov>; Chihara, Izumi (DOH) <izumi.chihara@doh.wa.gov>; Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH) <eht4@cdc.gov>; Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH) <jqd6@cdc.gov>; Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH) <chy2@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>; Hawkins, Vivian (DOH) <Vivian.Hawkins@DOH.WA.GOV>; Betsy Bertelsen <bbertelsen@srhd.org>; Oltean, Hanna (DOH) <Hanna.Oltean@DOH.WA.GOV>; Anna Halloran <ahalloran@srhd.org>
Subject: RE: B18WA followup call

Hello, it sounds like there are additional cases since last time, possibly including coinfection with hepatitis D. We often find it very helpful to have an updated line list (without names, please) to discuss during outbreak conference calls. Thanks for considering whether that might be useful in this case.
-dee

-----Original Appointment-----
From: Bixler, Danae (CDC/DDID/NCHHSTP/DVH)
Sent: Monday, December 17, 2018 3:28 PM
To: Bixler, Danae (CDC/DDID/NCHHSTP/DVH); Fuller, Mackenzie S (DOH Fellow); Chihara, Izumi (DOH); Teshale, Eyasu H. (CDC/DDID/NCHHSTP/DVH); Drobeniuc, Jan (CDC/DDID/NCHHSTP/DVH); Hughes, Elizabeth (CDC/DDID/NCHHSTP/DVH)
Cc: DeBolt, Chas (DOH); Hawkins, Vivian (DOH); Betsy Bertelsen; Oltean, Hanna (DOH); Anna Halloran
Subject: B18WA followup call
When: Thursday, December 20, 2018 2:30 PM-3:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: Skype Meeting

.....

Join Skype Meeting
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(404) 553-8912 (Atlanta Dial-in Conference Region) English (United States)
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[!OC([1033])!]
.....

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP)
Sent: 1/11/2019 9:27:47 AM
To: D'Angeli, Marisa (DOH),Benoliel, Eileen
Cc:
Subject: RE: Clinical consult triple carbapenemase WA 0316073


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attachments\C003CE987BAE41C1_image005.png


attachments\7CB1902D798443AC_image001.png


attachments\2741D1195A4C4AFE_image003.png


attachments\35AB6D114D474B79_image004.png

Yes, it is an unfortunately poorly named position that means I talk to clinicans for the lab…

Do you by any chance know what they want tested? Also would need to know from you if you want the isolate to go through the state DOH or come directly to CDC (we don't have a strong preference).
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:23 PM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

OK, thanks for the clarification!!! My mistake. I extrapolated from "clinical consultant."

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) [mailto:ffp0@cdc.gov]
Sent: Friday, January 11, 2019 9:22 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Hi, just to be clear, I can discuss additional testing of the isolate if that is useful but am not able to provide clinical advice.
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:19 PM
To: Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>; Kallen, Alexander

(CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: Clinical consult triple carbapenemase WA 0316073

Hi Eileen,
Please see the email below. Dr. Alex Kallen at CDC will provide clinical consultation to your ID doctor and can offer additional drug testing upon request.

Since this process is new—new AST testing, and clinical consultation for treatment—I'd really appreciate being included in the communication so I can learn. I assume PHSKC would also like to be included too.

I'll let you take it from here.
Best,
Marisa

Marisa D'Angeli, MD, MPH
Medical Epidemiologist
Office of Communicable Disease Epidemiology
Healthcare Associated Infections and Antibiotic Resistance Program
Disease Control and Health Statistics
Washington State Department of Health
marisa.dangeli@doh.wa.gov
206-418-5595 | www.doh.wa.gov
206-418-5500 | 877-539-4344
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Lonsway, David (CDC/DDID/NCEZID/DHQP) [mailto:dul7@cdc.gov]
Sent: Friday, January 11, 2019 8:51 AM
To: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>
Cc: Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>
Subject: RE: PCR testing of MaConkey broth

Mike,

We are testing other drugs here at CDC for this isolate. If other drugs are needed for patient care, the physician will need to contact us (Dr. Alex Kallen is our clinical consultant; cc'd here).

David

From: Courogen, Maria (DOH)
Sent: 12/20/2018 7:29:50 PM
To: Andersen, Bryce (OFM),Bekemeier, Betty (DOHi),Bergener, Terry (DOH),Bodden, Jaime (DOHi),Corbridge, Ian (DOHi),Courogen, Maria (DOH),Flake, Marie D (DOH),Gelder, Rob (DOHi),Glover, Carrie (DOHi),Hemberry, Jim (DOHi),Jeffords, Jim (DOHi),Johnson, Eric,Johnson, Jim (DOHi),Kutz, Stephen (DOHi),Libby, Patrick (DOHi),McDermott, Joe (DOHi),McGill, Jason (GOV),Mielke, Todd (DOHi),Nandi, Paj (DOH),Nguyen, Lan (DOHi),Nicola, Bud (DOHi),Olmstead, Jan (DOHi),Peterson, Julie (DOHi),Piazza, Ann (DOHi),Price Johnson, Helen (DOHi),Scott, Marilyn (DOHi),dreyes59@gmail.com,Warren-Mears, Victoria (DOHi),Wiesman, John (DOH),Young, Derek (DOHi),Windom, David (DOHi),bmarsalli@wacommunityhealth.org,Person, Amy, DR (DOHi),Thomas, Heather (DOHi)
Cc:
Subject: FPHS Policy Advisory Committee Update - Friday, December 21, 11am

Dear Colleagues,

We are excited about the progress being made on implementing Foundational Public Health Services and transforming the public health system across the state and we would like to update you on our progress.

We have scheduled a one-hour call to give you a quick progress report.

December 21, 2018, at 11 AM

Call-in number: 872-240-3412; conference code: 491-054-653

Topics:

* Local and state investments with one-time funding
* How the money is being spent
* Results of the comprehensive FPHS statewide assessment
* Work of the Steering Committee
* 2019 legislative session plans
* Q & A

If you have any questions in the meantime, please contact Maria Courogen at 360-507-4243 or Marie Flake at 360-951-7566.

Co-Chairs, FPHS Policy Advisory Committee

John Wiesman, DrPH, MPH | Secretary of Health
Washington State Department of Health
360.236.4030

David Windom, MSHS | WSALPHO President
Mason County Community Services Department
360-427-9670 Ext 260

Maria Courogen, MPH
Special Assistant, Systems Transformation
Office of the Secretary

Washington State Department of Health
maria.courogen@doh.wa.gov
360-236-4017 | www.doh.wa.gov
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: AFM Info (CDC)
Sent: 1/10/2019 9:23:04 AM
To: Poel, Amy J (DOH)
Subject: RE: AFM case counts

attachments\B582E59EC18E4A6A_image001.png

attachments\98DCB15F045B4FFB_image002.png

attachments\B4BE14A0EBD5446C_image004.png

attachments\B9D8E96948B84B7B_image005.png

attachments\6A4F5441E8464EC3_image003.png

Hi Amy,

The total number I have for Washington matches your numbers (with the newly identified case).

I actually received some classifications for the 2 pending PUIs yesterday so that will leave only this newest case as pending.
1) WAAFM18008 – classified as not a case. Per review by the neurologists, tone was documented as normal and although the patient had mild weakness, it was not flaccid. The patient also had very subtle changes on MRI and not consistent with AFM.
2) WAAFM18012 – classified as a confirmed case of AFM.

With the newly confirmed case, WA now has 11 confirmed AFM cases and this is the number that will be included on the map update for Monday. If you have any other questions, please let me know.

Thanks!
Adriana

Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

From: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Sent: Thursday, January 10, 2019 11:07 AM
To: AFM Info (CDC) <AFMinfo@cdc.gov>
Cc: DeBolt, Chas (DOH) <Chas.DeBolt@DOH.WA.GOV>
Subject: AFM case counts

Adriana,

For 2018, I now have (with the new suspect case WAAFM18013), 13 AFM cases for WA State-10 confirmed and 3 suspect. Am I correct that Washington is still waiting for confirmation by CDC of WAAFM18008 and WAAFM18012. Does this match up with what you have?

Thanks,

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
Washington State Department of Health
Amy.Poel@doh.wa.gov
206-418-5605 | www.doh.wa.gov
Fax 206-364-1060
Gender Pronouns: She/Her
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Wright, Jennifer G. (CDC/DDPHSS/CSELS/DSEPD)
Sent: 1/10/2019 9:15:45 AM
To: CDC EISO Field Supervisors 2017,CDC EISO Field Supervisors 2018
Subject: EIS conference hotel

Hi all – below is the link to the EIS conference hotel to make your reservations in case they are needed for your travel approval.

Please note that we have not yet shared this with the EISOs as they need to receive additional travel information before they can make reservations and I haven't pulled that email together yet. I would ask that for now you use this to make your reservations and let us send the link to the EISOs with the rest of the information (otherwise it will generate a lot of emails and questions to our staff). Thank you for understanding! The link should also be live on the conference website in the next few weeks.

The link expires April 4 so please make your reservations before then. If you have any trouble with the link or questions about the rate, please follow up with Twanda Broughton (vqt6@cdc.gov).

https://www.marriott.com/event-reservations/reservation-link.mi?id=1808309464&key=181A85D2&app=resvlink

Thank you, Jennifer

From: Wright, Jennifer G. (CDC/DDPHSS/CSELS/DSEPD)
Sent: Monday, January 7, 2019 1:05 PM
To: CDC EISO Field Supervisors 2017 <EISOFieldSupervisors2017@cdc.gov>; CDC EISO Field Supervisors 2018 <EISOFieldSupervisors2018@cdc.gov>
Cc: Conrey, Elizabeth (CDC odh.ohio.gov) <ElizabethJ.Conrey@odh.ohio.gov>; 'Sietske.deFijter@odh.ohio.gov' <Sietske.deFijter@odh.ohio.gov>; 'clint.koenig@odh.ohio.gov' <clint.koenig@odh.ohio.gov>; 'joshua.clayton@state.sd.us' <joshua.clayton@state.sd.us>; Tarkhashvili, Nato (CDC state.sd.us) <nato.tarkhashvili@state.sd.us>; 'nick.hill@state.sd.us' <nick.hill@state.sd.us>; 'mark.canfield@dshs.texas.gov' <mark.canfield@dshs.texas.gov>; 'heidi.bojes@dshs.texas.gov' <heidi.bojes@dshs.texas.gov>; 'patsy.kelso@vermont.gov' <patsy.kelso@vermont.gov>; 'natalie.kwit@vermont.gov' <natalie.kwit@vermont.gov>; Read, Jennifer (CDC vermont.gov) <Jennifer.read@vermont.gov>
Subject: travel letters

Hi everyone and Happy New Year! Each year we send letters that can be used to help support your travel to EIS conference (some states require these and some don't). I've attached 3 letters: one for supervisors, one for recruiting supervisors, and one for prematched supervisors. Please use the one most applicable for your situation and if you need something different, please let me know (or if you find an error; I've looked over them multiple times but something always escapes my review!)

Many thanks and we look forward to seeing everyone in a few months at EIS conference. If you need the location for your travel paperwork, this year's conference will be held at Sheraton Atlanta Hotel, 165 Courtland St NE, Atlanta, GA 30303

Jennifer

Jennifer Gordon Wright, DVM, MPH, DACVPM
CAPT, USPHS

Field Coordinator and EIS Supervisor | Division of Scientific Education and Professional Development
Center for Surveillance, Epidemiology, and Laboratory Services
Centers for Disease Control and Prevention; 1600 Clifton Road, NE; Mailstop V 24-5; Atlanta, GA 30329-4027
office 404.498.1180 cell 404.348.3793
jgwright@cdc.gov

From: Lowenthal, Phil@CDPH
Sent: 1/10/2019 9:20:11 AM
To: alonna.hudson@flhealth.gov,Tasslimi, Azadeh (DOH),Blain.Mamo@state.mn.us,jenny.arias@houstontx.gov,Zabala, Jose,juli.bettridge@state.co.us,Novak, Justina (DOH),laura.smock@state.ma.us,lori.johnston@flhealth.gov,Nathaniel Clark,Cabanting, Nuny@CDPH,Amaya, Maritza - HHD,Mel.Galvez@rescue.org,Ndibe, Patrick - HHD,spoonja@ph.lacounty.gov,Franks, Shannon M (DOH),trudy.stein-hart@tn.gov,Jessica Montour,Amanda Swanson
Subject: EDN workgroup meeting Thursday January 10th - revised EDN worksheet presentation

attachments\85E854D26B6C45F0_EDN TB Followup Worksheet Highlig_PRDTOOL_NAMETOOLONG.pdf

Dear EDN Workgroup,

Please see the attached PDF for the presentation about the revised EDN worksheet during the workgroup meeting today.

Thank you –

Phil

Phil Lowenthal, MPH
Epidemiologist
Surveillance and Epidemiology Section, Tuberculosis Control Branch
Division of Communicable Disease Control, California Department of Public Health
850 Marina Bay Parkway, P-building, 2nd floor, Richmond, CA 94804
510-620-3051 (phone) 510-620-3035 (fax)
phil.lowenthal@cdph.ca.gov

From: Holshue, Michelle L (DOH Fellow)
Sent: 1/2/2019 4:25:48 PM
To: Wright, Jennifer G. (CDC/DDPHSS/CSELS/DSEPD),Lindquist, Scott W (DOH),Goldoft, Marcia (DOH),Glover, William A (DOH)
Subject: October- December Field Reports!

attachments\7AD5094A8F004D72_HolshueMichelle2018-Nov.docx

attachments\5A5D12025C7D4C8E_HolshueMichelle2018-Dec.docx

attachments\73C9979536AD4DAF_HolshueMichelle2018-Oct.docx

Hello, and Happy New Year!

For your reading pleasure, please find my field officer reports from October through December attached. Yes, this is a 3-for-the-price-of-1 special.

I'm wishing you all the best for 2019!

PS – I resolve to send my field reports in a more timely manner in 2019.

From: D'Angeli, Marisa (DOH)
Sent: 1/11/2019 9:23:00 AM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP),Benoliel, Eileen
Cc:
Subject: RE: Clinical consult triple carbapenemase WA 0316073


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attachments\7263B2BD4BD04281_image003.png


attachments\D92CE9089A094720_image005.png

OK, thanks for the clarification!!! My mistake. I extrapolated from "clinical consultant."

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) [mailto:ffp0@cdc.gov]
Sent: Friday, January 11, 2019 9:22 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Hi, just to be clear, I can discuss additional testing of the isolate if that is useful but am not able to provide clinical advice.
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:19 PM
To: Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: Clinical consult triple carbapenemase WA 0316073

Hi Eileen,
Please see the email below. Dr. Alex Kallen at CDC will provide clinical consultation to your ID doctor and can offer additional drug testing upon request.

Since this process is new—new AST testing, and clinical consultation for treatment—I'd really appreciate being included in the communication so I can learn. I assume PHSKC would also like to be included too.

I'll let you take it from here.
Best,
Marisa

Marisa D'Angeli, MD, MPH
Medical Epidemiologist
Office of Communicable Disease Epidemiology
Healthcare Associated Infections and Antibiotic Resistance Program
Disease Control and Health Statistics
Washington State Department of Health
marisa.dangeli@doh.wa.gov
206-418-5595 | www.doh.wa.gov
206-418-5500 | 877-539-4344
<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

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From: Lonsway, David (CDC/DDID/NCEZID/DHQP) [mailto:dul7@cdc.gov]
Sent: Friday, January 11, 2019 8:51 AM
To: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>
Cc: Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>
Subject: RE: PCR testing of MaConkey broth

Mike,

We are testing other drugs here at CDC for this isolate. If other drugs are needed for patient care, the physician will need to contact us (Dr. Alex Kallen is our clinical consultant; cc'd here).

David

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP)
Sent: 1/11/2019 10:29:09 AM
To: D'Angeli, Marisa (DOH),Benoliel, Eileen
Subject: RE: Clinical consult triple carbapenemase WA 0316073


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attachments\8B65334911C341D2_image002.png


attachments\EC1B241F63BD4770_image004.png

Ok, I would be happy to speak with him/her.

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:34 PM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Hi Alex,
Putting everyone back on the email string. CDC already has the isolate and it has been tested (S to colistin and tigecycline) but will have the HP printer testing soon. The provider had wanted advice on what to treat with and I suggested he consult with local ID docs within the University of Washington system. So actually, I'm not sure at this point whether he wants more drugs tested or wants a clinical consultation. Thanks for assisting!
M

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) [mailto:ffp0@cdc.gov]
Sent: Friday, January 11, 2019 9:28 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Yes, it is an unfortunately poorly named position that means I talk to clinicans for the lab…

Do you by any chance know what they want tested? Also would need to know from you if you want the isolate to go through the state DOH or come directly to CDC (we don't have a strong preference).
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:23 PM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

OK, thanks for the clarification!!! My mistake. I extrapolated from "clinical consultant."

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) [mailto:ffp0@cdc.gov]
Sent: Friday, January 11, 2019 9:22 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Hi, just to be clear, I can discuss additional testing of the isolate if that is useful but am not able to provide clinical advice.
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:19 PM
To: Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: Clinical consult triple carbapenemase WA 0316073

Hi Eileen,
Please see the email below. Dr. Alex Kallen at CDC will provide clinical consultation to your ID doctor and can offer additional drug testing upon request.

Since this process is new—new AST testing, and clinical consultation for treatment—I'd really appreciate being included in the communication so I can learn. I assume PHSKC would also like to be included too.

I'll let you take it from here.
Best,
Marisa

Marisa D'Angeli, MD, MPH
Medical Epidemiologist
Office of Communicable Disease Epidemiology

Healthcare Associated Infections and Antibiotic Resistance Program
Disease Control and Health Statistics
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<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
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Cc: Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>
Subject: RE: PCR testing of MaConkey broth

Mike,

We are testing other drugs here at CDC for this isolate. If other drugs are needed for patient care, the physician will need to contact us (Dr. Alex Kallen is our clinical consultant; cc'd here).

David

From: Czapla, Monica
Sent: 1/14/2019 12:58:50 PM
To: Poel, Amy J (DOH)
Subject: Measles Update


attachments\47ED81FB52BA46A8_image008.jpg


attachments\BBB0C45A3A884B4A_image004.jpg


attachments\90693518A18F4C11_image002.jpg


attachments\87B1F479E61345D4_image006.jpg

Hi Amy,

Specimens are being shipped FedEx same day, should arrive around 3pm today at the PHL. Here is the tracking #: 471672744409.

We also received a call from the Georgia State Department of Health. They reported to us two cases of measles (siblings) confirmed by PCR who recently relocated from Vancouver. Symptom onset dates were 1/6 and 1/7, rash onset 1/14 and 1/15. Traveled to Georgia, via PDX on 1/7/2019.

I have a feeling this is going to get very big very quick. If needed, is there any support available from DOH for making initial phone calls to notify contacts?

<https://www.clark.wa.gov/>

Monica Czapla, MPH
Program Manager - Infectious Diseases
PUBLIC HEALTH

564.397.8002 (note: our office area code has changed)
360.836.9086 cell

<https://www.facebook.com/pages/Clark-County-WA/1601944973399185>
<https://twitter.com/ClarkCoWA> <https://www.youtube.com/user/ClarkCoWa/>

From: Poel, Amy J (DOH)
Sent: 12/19/2018 6:02:46 PM
To: Halstenson, Gentle,Riethman, Madison (DOHi)
Subject: FW: [secure] WAAFM18012

I'm sorry I'm sending this so late. I was in Tumwater today and am just getting through my e-mails.

I'll touch base with you about this tomorrow (12/20) morning. It sounds like we'd need a doc to talk with the family and if they are amenable, to get someone in the lab at Randall to be the contact person for the specimen. I think this may involve someone from Clark County going to Randall, getting the specimen from the contact and bringing it to the Portland Airport. I'll clarify this with Adriana.

From: afminfo@cdc.gov [mailto:afminfo@cdc.gov]
Sent: Wednesday, December 19, 2018 10:27 AM
To: Poel, Amy J (DOH) <Amy.Poel@DOH.WA.GOV>
Subject: RE: [secure] WAAFM18012

Thanks so much Amy! We were hoping the same thing about the AFM cases slowing down.

So I have a question for you about this patinent. As you may remember, we were trying to get whole blood from patients to look at peripheral blood mononuclear cells to see if this could help with identifying an etiology for the AFM cases. There were issues with logistics and challenges with collecting the sample and getting it to CDC in a timely manner (has to be within 24 hours of specimen collection and specimen has to be sent at room temperature). There is still interest in getting whole blood from recent cases and CDC has been working on identifying ways to help with the coordination and shipment of specimens so they get to CDC within that 24 hour collection window. I know this most recent patient isn't hospitalized in Washington but wanted to check with you to see if it might be possible to ask the family and treating physician if this is something that they might be interested in helping with. We would be requesting the following: 1 lavendar top 5ml tube of whole blood, unprocessed in the lab and kept at room temperature.

If all parties are amenable, then we have folks in our operations group who can work with a contact you all identify there to pick up the specimen once it has been collected and get it shipped (using Delta Dash) so that it gets to CDC within the requested time frame of within 24 hours of specimen collection. Unfortunately, because the testing of PBMCs is not CLIA approved, results will not be returned to the provider or patient on an individual level. But as we collect more data from looking at the PBMCs and if anything of interest is identified, the information will be shared as soon as possible.

Let me know what you think about the whole blood. Thanks again for sending this information and here's hoping that you guys don't see any more AFM cases this year!
Thanks,
Adriana
Adriana S. Lopez, M.H.S.
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention
1600 Clifton Road, NE; Mailstop A-34
Atlanta, GA 30329
Phone: 404-639-8369
Fax: 404-315-3398
Email: alopez@cdc.gov

--- Originally sent by amy.poel@doh.wa.gov on Dec 18, 2018 11:34 AM ---
Adriana,

Attached are the patient summary form, CSF testing, H&P, ID consults, Neuro consults, vaccination record, and brain and spinal MRI report for our new suspect AFM cases (WAAFM18012). The child is hospitalized in Portland, OR so ask I said yesterday, the hospital will be sending the clinical specimens to the Oregon State Public Health Laboratory for forwarding to CDC. I'm working with the county to get a DVD of the brain and spinal MRI images sent to me.

I thought we might be done for the year, but I guess not!

Amy

Amy J. Poel
Epidemiologist/Vaccine Preventable Disease Coordinator
Office of Communicable Disease Epidemiology
Division of Disease Control and Health Statistics
Washington State Department of Health
Amy.Poel@doh.wa.gov
206-418-5605 | www.doh.wa.gov
Fax 206-364-1060
Gender Pronouns: She/Her

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From: Flake, Marie D (DOH)
Sent: 1/15/2019 4:14:38 PM
To: Black, Ryan (DOH),Bodden, Jaime (DOHi),Burkland, Anne (DOHi),Calder, Allegra (DOHi),Courogen, Maria (DOH),Davis, Michelle (DOH),Debolt, Meghan (DOHi),Delahunt, Regina (DOHi),Dzedzy, Ed (DOHi),Flake, Marie D (DOH),Goelz, Mary (DOHi),Halvorson, Clark R (DOH),Joyner, Pama (DOH),Ketchel, Jeff (DOHi),Kirkpatrick, Vicki (DOHi),Lindquist, Scott W (DOH),Melnick, Alan (DOHi),Miller, Angi (DOH),Rohr Tran, Holly (DOHi),Schanz, Matt (DOHi),Schuler, Christopher (DOHi),Tammy Axlund ,Turner, Susan (DOHi),Wilson, Lyndia (DOHi),Windom, David (DOHi),Wolfe, Roxanne (DOHi),Worsham, Dennis (DOHi),York, Danette (DOHi)
Cc:
Subject: FPHS TWG Meeting 1/18/19 - proposed language for lab

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TWG,
I'm share this with Ed's permissions. He has a proposal for your consideration.

I was reviewing the definitions and I struggled with the definition around lab sampling, so I created my own definition that sounds better to me. How about this:

"Utilizing scientific methods and best practices, when indicated, to collect environmental samples and human specimens for laboratory analysis to confirm or rule out disease presence. This includes packaging in conformance with DOT and USPS requirements and shipping to a certified laboratories for analysis."

Perhaps this would replace the definitions identified in:

Page 32, G (CD) 4 (Investigation) d – adding efforts to collect, package, ship and test CD samples
Page 41 & 42, I (EH) 3 (Investigations) – adding efforts to collect, package, ship and test EH samples

Just a thought

Ed Dzedzy

Lincoln County

From: Flake, Marie D (DOH) [mailto:marie.flake@doh.wa.gov]
Sent: Friday, January 11, 2019 1:57 PM
To: Black, Ryan (DOH) <Ryan.Black@DOH.WA.GOV>; Bodden, Jaime (DOHi) <Jbodden@wsac.org>; Burkland, Anne (DOHi) <Anne.Burkland@kingcounty.gov>; Calder, Allegra (DOHi) <allegra@berkconsulting.com>; Courogen, Maria (DOH) <Maria.Courogen@DOH.WA.GOV>; Davis, Michelle (DOH) <Michelle.Davis@sboh.wa.gov>; Debolt, Meghan (DOHi) <mdebolt@co.walla-walla.wa.us>; Delahunt, Regina (DOHi) <rdelahun@whatcomcounty.us>; Ed Dzedzy <edzedzy@co.lincoln.wa.us>; Flake, Marie D (DOH) <marie.flake@doh.wa.gov>; Goelz, Mary (DOHi) <mgoelz@co.pacific.wa.us>; Halvorson, Clark R (DOH) <Clark.Halvorson@DOH.WA.GOV>; Joyner, Pama (DOH) <Pama.Joyner@DOH.WA.GOV>; Ketchel, Jeff (DOHi) <jketchel@snohd.org>; Kirkpatrick, Vicki (DOHi) <VKirkpatrick@co.jefferson.wa.us>; Lindquist, Scott W (DOH) <scott.lindquist@doh.wa.gov>; Melnick, Alan (DOHi) <alan.melnick@clark.wa.gov>; Miller, Angi (DOH) <Angi.Miller@DOH.WA.GOV>; Rohr Tran, Holly (DOHi) <Holly.RohrTran@kingcounty.gov>; Schanz, Matt (DOHi) <mschanz@netchd.org>; Schuler, Christopher (DOHi) <cschuler@tpchd.org>; Tammy Axlund <taxlund@co.whatcom.wa.us>; Turner, Susan (DOHi) <Susan.Turner@kitsappublichealth.org>; Wilson, Lyndia (DOHi) <Lwilson@srhd.org>; Windom, David (DOHi) <DWindom@co.mason.wa.us>; Wolfe, Roxanne (DOHi) <Roxanne.wolfe@clark.wa.gov>; Worsham, Dennis (DOHi) <Dennis.worsham@kingcounty.gov>; York, Danette (DOHi) <danette.york@lewiscountywa.gov>
Subject: FPHS TWG Meeting 1/18/19

Dear TWG,
Happy New Year. We scheduled to meet next Friday, 1/18, 1:30-3pm to finalize the functional definitions – for this moment in time. Connection info is below and should be on your calendar.

Attached is the final draft version we have used for the past year with the tweaks this group settled on in December shown using track changes. I also incorporated the comment receive by e-mail from Susan after that meeting. Below is a summary of the proposed changes. Please review in advance so we can complete this task during the meeting. If you are not able to participate in the meeting, please send your comments in advance. Thank you.

Connection
* Webinar: https://global.gotomeeting.com/join/990414661
* Audio by phone: (872) 240-3212 / Access Code: 990-414-661
Summary of Proposed Changes to Functional Definitions – for discussion/approval by TWG on 1/18/19

* Page 29, G (CD) 1 (Data) – b (Immunization Information System) – Centralized Activity; c, d, f – adding effort for data input, quality, educating providers.

* Page 31, G (CD) 3 (Immunizations) & b – adding effort for promoting IIS and data input, quality, educating providers.

* Page 32, G (CD) 4 (Investigation) d – adding efforts to collect, package, ship and test CD samples; e – receive case reports from providers, labs and other reporters.

* Page 34, G (CD) 5 (PHL) – Centralized Activity with support from PHSKC

* Page 41 & 42, I (EH) 3 (Investigations) – adding efforts to collect, package, ship and test EH samples

* Page 47, J (MCH) 3 (Newborn screening) – Centralized Activity

* Page 50, K (Access) 3 (Licensing) – Centralized Activity

* Page 52, L (VR) 1 (Data system) – Centralized Activity

Talk with you next week.

Marie

Marie Flake
Special Projects
Systems Transformation I Office of the Secretary
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<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

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<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

_____
From: Shaily Krishan
Sent: 1/2/2019 6:56:31 AM
To: Shaily Krishan
Subject: Agenda: CSTE SPIS Call FRIDAY, 1/4 at 1:30-3 pm ET


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Sent to the CSTE Surveillance Practice and Implementation Subcommittee:

Happy New Year!

This is a reminder that the CSTE Surveillance Practice and Implementation Subcommittee (SPIS) call will be held on Friday, January 4th, at 1:30-3:00 pm ET. The calendar invite is attached, and the agenda and webinar information are below:
Agenda:
1. 1:30-1:40: Roll call & CSTE updates
2. 1:40-2:30: Epidemic Information Exchange (Epi-X) Now and Beyond + Q & A: Amanda Evanson (CDC)
3. 2:30-3:00: Q & A, Open mic

WEBINAR INFORMATION
Please join the webinar BEFORE calling in, to link your phone line with the webinar using your Attendee ID.
* Go to https://cste.webex.com/cste/k2/j.php?MTID=t73a0d8493d335f7d2fb0eb14e6923c22
* Enter your name and email address.
* Enter the session password: epi123
* Click "Join Now"
* Follow the instructions that appear on your screen

To join by phone only:
Call-in toll-free number (US/Canada):1-877-668-4490
Access code: 791 659 537
To add this call to your calendar program, click this link:
https://cste.webex.com/cste/k2/j.php?MTID=t8fc32633128a347fc4d9d8bcff96d7d2

Thank you!
Shaily

Shaily Krishan, MPH
Program Analyst III
Surveillance and Informatics Program

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Tel: 770.458.3811 | Fax: 770.458.8516

Have an S/I topic to discuss in a subcommittee? Submit here!

Message was attached to: Agenda: CSTE SPIS Call FRIDAY, 1/4 at 1:30-3 pm ET

From: Shaily Krishan
Sent:
To:
Cc:
Subject: CSTE Surveillance Practice and Implementation Subcommittee Call

Call agenda will be shared before each call

Topic: CSTE Surveillance Practice and Implementation Subcommittee Call
Date: The 1st Friday of every 1 month
Time: 1:30 pm, Eastern Daylight Time (New York, GMT-04:00)

To join the webinar
---
1. Go to
https://cste.webex.com/cste/k2/j.php?MTID=t73a0d8493d335f7d2fb0eb14e6923c22
2. Enter your name and email address.
3. Enter the session password: epi123
4. Click "Join Now".
5. Follow the instructions that appear on your screen.

To join the webinar by phone only

To receive a call back, provide your phone number when you join the training session, or call the number below and enter the access code.
Call-in toll-free number (US/Canada):1-877-668-4490
Call-in toll number (US/Canada):1-408-792-6300
Show toll-free dialing restrictions: https://www.webex.com/pdf/tollfree_restrictions.pdf
Access code: 791 659 537

From: D'Angeli, Marisa (DOH)
Sent: 1/11/2019 9:34:00 AM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP),Benoliel, Eileen
Subject: RE: Clinical consult triple carbapenemase WA 0316073

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attachments\B36EC5000BCD4C80_image001.png

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attachments\6A1FFF5614A84728_image005.png

Hi Alex,
Putting everyone back on the email string. CDC already has the isolate and it has been tested (S to colistin and tigecycline) but will have the HP printer testing soon. The provider had wanted advice on what to treat with and I suggested he consult with local ID docs within the University of Washington system. So actually, I'm not sure at this point whether he wants more drugs tested or wants a clinical consultation. Thanks for assisting!
M

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Sent: Friday, January 11, 2019 9:28 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Yes, it is an unfortunately poorly named position that means I talk to clinicans for the lab…

Do you by any chance know what they want tested? Also would need to know from you if you want the isolate to go through the state DOH or come directly to CDC (we don't have a strong preference).
Alex

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Sent: Friday, January 11, 2019 12:23 PM
To: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

OK, thanks for the clarification!!! My mistake. I extrapolated from "clinical consultant."

From: Kallen, Alexander (CDC/DDID/NCEZID/DHQP) [mailto:ffp0@cdc.gov]
Sent: Friday, January 11, 2019 9:22 AM
To: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>; Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria

(CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: RE: Clinical consult triple carbapenemase WA 0316073

Hi, just to be clear, I can discuss additional testing of the isolate if that is useful but am not able to provide clinical advice.
Alex

From: D'Angeli, Marisa (DOH) <Marisa.DAngeli@DOH.WA.GOV>
Sent: Friday, January 11, 2019 12:19 PM
To: Benoliel, Eileen <Eileen.Benoliel@kingcounty.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>
Cc: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>; Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>; Kauber, Kelly J (DOH) <kelly.kauber@doh.wa.gov>; Hun, Sopheay (DOH) <sopheay.hun@doh.wa.gov>; Ruiz, Ryan S (DOH) <ryan.ruiz@doh.wa.gov>; Schneider, Emily C (DOH) <emily.schneider@doh.wa.gov>
Subject: Clinical consult triple carbapenemase WA 0316073

Hi Eileen,
Please see the email below. Dr. Alex Kallen at CDC will provide clinical consultation to your ID doctor and can offer additional drug testing upon request.

Since this process is new—new AST testing, and clinical consultation for treatment—I'd really appreciate being included in the communication so I can learn. I assume PHSKC would also like to be included too.

I'll let you take it from here.
Best,
Marisa

Marisa D'Angeli, MD, MPH
Medical Epidemiologist
Office of Communicable Disease Epidemiology
Healthcare Associated Infections and Antibiotic Resistance Program
Disease Control and Health Statistics
Washington State Department of Health
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<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

From: Lonsway, David (CDC/DDID/NCEZID/DHQP) [mailto:dul7@cdc.gov]
Sent: Friday, January 11, 2019 8:51 AM
To: Tran, Michael L (DOH) <Michael.Tran@DOH.WA.GOV>
Cc: Bhatnagar, Amelia (CDC/DDID/NCEZID/DHQP) (CTR) <wmt7@cdc.gov>; Karlsson, Maria (CDC/DDID/NCEZID/DHQP) <fwt4@cdc.gov>; Boyd, Sandra (CDC/DDID/NCEZID/DHQP) <yro6@cdc.gov>; Rasheed, James K. PhD (Kamile) (CDC/DDID/NCEZID/DHQP) <jkr1@cdc.gov>; Kallen, Alexander (CDC/DDID/NCEZID/DHQP) <ffp0@cdc.gov>; Balbuena, Rocio (CDC/DDID/NCEZID/DHQP) (CTR) <nyq0@cdc.gov>
Subject: RE: PCR testing of MaConkey broth

Mike,

We are testing other drugs here at CDC for this isolate. If other drugs are needed for patient care, the physician will need to contact us (Dr. Alex Kallen is our clinical consultant; cc'd here).

David

From: Foster, Hannah (CDC/DDNID/NCCDPHP/DHDSP)
Sent: 12/20/2018 12:28:21 PM
To: Nunez de Ybarra, Jessica (CDC cdph.ca.gov),Hashima, Patricia (CDC dph.ga.gov),Davis, Victoria VD (CDC dph.ga.gov),Wahl, Robert (CDC michigan.gov),Quartermus, Krystal (CDC michigan.gov),Scorcia Wilson, Teri (CDC michigan.gov),Wales, Kathleen KW (CDC health.ny.gov),Pesik, Mary (CDC wisconsin.gov),Justis, Patricia D (DOH),Christie, Anita (CDC state.ma.us),Kevin Clark-CA,Renato Littaua-CA (Renato.Littaua@cdph.ca.gov),Terrence Kelley- CA,Tracee Watts-CA,Denys Fluitt,Moges Ido,Rana Bayakly,Serena Robinson- GA,Terri Newsome-GA,Anita Christie (anita.christie@massmail.state.ma.us),Claudia Van Dusen-MA,claudine Dejoie-Stanton (claudine.dejoie-stanton@massmail.state.ma.us),Rebecca Sullivan (rebecca.sullivan@massmail.state.ma.us),Victoria Nielsen- MA,Adrienne Nickels,Ghada Ibrahim- MI,Justin Allen- MI,Smantha Walls-MI,Sue OBrien,Albert Tsai,Allyson Fujii- MN (allyson.fujii@state.mn.us),Claire Fleming,'Eaton, Catherine (MDH)',Erica Fishman,Julie Hoffer- MN,Nicky Anderson-MN (nicky.anderson@state.mn.us),diana mcfarland,Ian Brissette,Krystal Parrigan,Laurie Crandall-Spear,Martha Gohlke,tatiana ledneva,Vicki Look,Diane Nutter,Jennifer Landau- OH (Jennifer.Landau@odh.ohio.gov),Stacy Lender,Tirschwell, David (DOHi),Fernandes, Dolly (DOH),Jansen, Jim (DOH),Kelley, Kim E (DOH),Efremova, Kseniya (DOH),Whittington, Mary (DOH),Dot Bluma,Jessica Link,Megan Elderbrook - WI,Nikke Kaemmerer (nkaemmer@metastar.com),aliskay@metrohealth.org,Angie Rios,Irene Katzan (katzani@ccf.org),Josh Lang,Williams, David (HEALTH),Newsome, Teri
Subject: December All-State Call, cont'd

Hi Everyone,

Thank you for participating in today's All-State Call! What a great way to close out the calendar year.
For reference and those who were unable to attend today, please use this link to watch the webinar recording :
https://ondieh.adobeconnect.com/p1ncvynqp9n9/?launcher=false&fcsContent=true&pbMode=normal

During the call, we had a lively discussion around data linkage in GWTG. In an effort to pass on the correct requests to AHA and IQVIA, please share any thoughts/concerns/questions using this email thread. Specifically, we're looking for:
1) clarification on the "child/parent" formatting;
2) leveraging asks from you all to emphasize our need for a mapping document;
3) anything other challenges you're experiencing with post-hospital data linkage that we should pass on to AHA/IQVIA.

The updated "Masterpiece" document showcasing your work and notes from webinars so far will be shared in the external update.
Our next installment will take place during February's Post-Hospital Workgroup Call, scheduled for 02/28/2019, with presentations from NY and WA.

Have safe and happy holidays!

Hannah

HANNAH FOSTER, MPH
ORISE Fellow – Paul Coverdell National Acute Stroke Program

Epidemiology and Surveillance Branch – Division for Heart Disease and Stroke Prevention

National Center for Chronic Disease Prevention & Health Promotion

Centers for Disease Control and Prevention
Chamblee Campus - 4770 Buford Hwy. Building 107, 1415.1
Atlanta, GA, 30341
404.498.5813 // hfoster@cdc.gov

From: Dold, Marilyn (DOH)
Sent: 1/16/2019 9:53:00 AM
To: Hudson, David
Cc:
Subject: RE: Measles Outbreak


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I did hear about it – Jessica sent an agency-wide email.
The public needs to know what their LHJ's are responsible for. I don't have the training to do what you do. You must be sleep-deprived!

From: Hudson, David [mailto:David.Hudson@clark.wa.gov]
Sent: Wednesday, January 16, 2019 8:07 AM
To: Dold, Marilyn (DOH) <Marilyn.Dold@DOH.WA.GOV>
Subject: Measles Outbreak

Did you hear about this in Clark County? It's crazy here. I was "duty officer" over the weekend which means I'm responsible for taking comm. Disease and PH emergency calls, 24 hours a day. It was crazy….phone rang off the hook.

How are you?

<https://www.clark.wa.gov/public-health>
David Hudson
Program Manager II | Healthy Communities
PUBLIC HEALTH
Cell: 360 787-8862

<http://www.facebook.com/clarkcowa.ph> <http://www.twitter.com/ClarkCoWA_PH>
<https://www.youtube.com/user/ClarkCoWa/>

From: Flake, Marie D (DOH)
Sent: 1/11/2019 1:56:00 PM
To: Black, Ryan (DOH),Bodden, Jaime (DOHi),Burkland, Anne (DOHi),Calder, Allegra (DOHi),Courogen, Maria (DOH),Davis, Michelle (DOH),Debolt, Meghan (DOHi),Delahunt, Regina (DOHi),Dzedzy, Ed (DOHi),Flake, Marie D (DOH),Goelz, Mary (DOHi),Halvorson, Clark R (DOH),Joyner, Pama (DOH),Ketchel, Jeff (DOHi),Kirkpatrick, Vicki (DOHi),Lindquist, Scott W (DOH),Melnick, Alan (DOHi),Miller, Angi (DOH),Rohr Tran, Holly,Schanz, Matt (DOHi),Schuler, Christopher (DOHi),Tammy Axlund ,Turner, Susan (DOHi),Wilson, Lyndia (DOHi),Windom, David (DOHi),Wolfe, Roxanne (DOHi),Worsham, Dennis (DOHi),York, Danette (DOHi)
Cc:
Subject: FPHS TWG Meeting 1/18/19

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Dear TWG,
Happy New Year. We scheduled to meet next Friday, 1/18, 1:30-3pm to finalize the functional definitions – for this moment in time. Connection info is below and should be on your calendar.

Attached is the final draft version we have used for the past year with the tweaks this group settled on in December shown using track changes. I also incorporated the comment receive by e-mail from Susan after that meeting. Below is a summary of the proposed changes. Please review in advance so we can complete this task during the meeting. If you are not able to participate in the meeting, please send your comments in advance. Thank you.

Connection
* Webinar: https://global.gotomeeting.com/join/990414661
* Audio by phone: (872) 240-3212 / Access Code: 990-414-661

Summary of Proposed Changes to Functional Definitions – for discussion/approval by TWG on 1/18/19

* Page 29, G (CD) 1 (Data) – b (Immunization Information System) – Centralized Activity; c, d, f – adding effort for data input, quality, educating providers.

* Page 31, G (CD) 3 (Immunizations) & b – adding effort for promoting IIS and data input, quality, educating providers.

* Page 32, G (CD) 4 (Investigation) d – adding efforts to collect, package, ship and test CD samples; e – receive case reports from providers, labs and other reporters.

* Page 34, G (CD) 5 (PHL) – Centralized Activity with support from PHSKC

* Page 41 & 42, I (EH) 3 (Investigations) – adding efforts to collect, package, ship and test EH samples

* Page 47, J (MCH) 3 (Newborn screening) – Centralized Activity

* Page 50, K (Access) 3 (Licensing) – Centralized Activity

* Page 52, L (VR) 1 (Data system) – Centralized Activity

Talk with you next week.

Marie

Marie Flake
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<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

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<https://twitter.com/wadepthealth?lang=en>
<https://www.facebook.com/WADeptHealth/>
<https://www.instagram.com/wadepthealth/>
<https://www.youtube.com/channel/UCTSCpezTD0TjiiAOuJY7f5w/doh>
<https://medium.com/@WADeptHealth>

Mumps in Immigration Detention Centers: Call with Jurisdictions

Monday, January 14, 2019, 2-3 PM EST

Conference Call Summary

I. **CDC introduction**
   a. Purpose of call: information sharing, provide background immigrations system and cases among detainees, update on ICE and CDC guidance, discuss any challenges

II. **Roll Call:**
   a. Attendees: 12 jurisdictions: AZ; CA Orange County; CA Imperial County; FL; GA; IL; LA; MS; OH; TX; VA; WA;
   b. CDC DVD (Epi and Lab), CDC ISD

III. **CDC review of immigration detention system, background on detention facilities**
   a. Migrants in Customs and Border Patrol (CBP) custody for 24-48 hours, sometimes 72 hours, in holding cells with 100-200 persons
      i. CBP has no medical capacity and is not tracking illnesses/exposures
   b. After processed by CBP, migrants are transferred to different facilities depending on which of the 3 groups they belong to:
      i. Unaccompanied Children: Office of Refugee Resettlement (ORR) shelters
         1. All vaccinated at admission
      ii. Families: Sent to family immigration centers, released to community, or sent to shelter operated by NGO
         1. If released or sent to shelter operated by NGO, may not be vaccinated and illnesses may not be tracked
      iii. Adults: Sent to one of >200 detention centers, which have a total of 48,000 detainees
         1. Not all ICE detention centers have ICE health services and therefore may not be complying with ICE guidelines for managing mumps cases and exposed persons

IV. **CDC Epi update**
   a. 141 cases (includes 3 staff) at 24 immigration detention facilities in 9 jurisdictions
   b. 1 jurisdiction with 9 suspect cases (OH)
   c. 11 ICE-run facilities; 4 private detention centers; 4 correctional facilities that house detainees; 2 ICE processing centers; 2 Unaccompanied minor shelters; 1 unknown facility type
   d. 10 facilities w/cases that resulted from within facility transmission; 11 facilities w/only imported cases (exposed prior to arrival at the facility); 3 w/unknown transmission
   e. 7 facilities w/ongoing transmission (<1 incubation period since last onset, 12/16-1/10)

V. **Jurisdiction epi updates provided**

VI. **Update on ICE and CDC recommendations (IgG titers, vaccination, issues with staff recs)**
   a. ICE can procure and pay for vaccine for ICE detainees in any facility type for detainees only
      i. ICE Contact:
      Diana Elson, DrPH, MA, CAPT USPHS
      Chief, Public Health, Safety, and Preparedness (PHSP) Unit
      DHS/ICE/ERO/ICE Health Service Corps

Office: 202-732-3467
Cell: 202-210-6804
Fax: 866-573-8531
Email: Diana.Elson@ice.dhs.gov
And copy Brandy Cloud (Brandy.Cloud@ice.dhs.gov) and Dakota McMurray (Dakota.McMurray@ice.dhs.gov)

b. CDC ISD can assist with obtaining vaccine for non-detainees (e.g., staff)
c. ICE is now advising ICE facilities for detainees exposed to a mumps case (e.g. in the same unit or barracks):
    i. consider vaccination for facilities with import cases (cases likely exposed prior to admission at the facility), at the discretion of facility Clinical Director
    ii. vaccinate if there is within facility transmission
    iii. non-ICE facilities should follow local health department guidance
d. HDs can refer to CDC guidance on use of a third (outbreak) dose that is similar to ICE guidance
    i. Only imported cases -> local epi determines if detainees are at increased risk
    ii. Evidence of transmission -> are at increased risk, should receive a dose, including transfers

VII. Q & A

a. Vaccination of staff challenging
    i. ICE does not have the authority to require vaccination of staff or have the ability to check mumps presumptive evidence of immunity. With AZ experience, they added language to administrative code for exclusions, but still challenging to have staff vaccinated or require presumptive evidence of immunity
b. Identifying ICE facilities
    i. Detention facility locator: https://www.ice.gov/detention-facilities
    ii. Not all ICE facilities, such as private facilities may be listed on the website above; there may be external websites in some states that have lists of ICE facilities
c. The Alien #
    i. Nine-digit identifying number assigned to a noncitizen and used by ICE to track detainees
d. Challenges with tracking movement of these detainees
    i. Information on where they came from, and where they were transferred to is not always available; information might be more complete in certain jurisdictions
    ii. Unknown if recommendation to maintain isolation for cases or quarantine for exposed is being implemented
    iii. ***update after the call - CA OC was able to obtain detailed information on case transfer history through ICE contact, Diana Elson
e. Reporting of mumps cases that are transferred
    i. Each state will have own mumps case reporting procedures
    ii. ***update after the call – Jurisdiction where the case had onset of parotitis (or first symptom if no parotitis) should report the case
f. ICE should add language to their guidance for detention facilities to notify local health departments early on when a mumps case is identified
    i. This will help with better response
    ii. CDC will follow-up with ICE to see if it is possible to add this to their guidelines
    iii. ***update after the call – ICE is updating their guidance to include

VIII. Action items

a. Send samples for genotyping

i. Please send mumps PCR positive specimens to either CDC or VPD Reference Center labs for genotyping
ii. For specimens sent to CDC for testing, please also provide the following information to Jessica Leung (ctf2@cdc.gov) so we can track the specimens
    1. state ID, state lab ID, DOB, gender, onset date
iii. We can also help to track genotype results sent to VPD reference labs, but need information below to track the specimens
    1. state ID, state lab ID, DOB, gender, onset date

b. Varicella cases
    i. Ongoing varicella cases, clusters or outbreaks in GA, MS, IL, CA, AZ; TX had varicella cases
    ii. If any varicella-related questions, can email Jessica Leung (JLeung@cdc.gov), Mona Marin (MMarinNelson@cdc.gov), or Adriana Lopez (ALopez@cdc.gov)
c. Follow up call w/states with ongoing outbreaks
    i. Next call: Monday, 1/28 at 2 PM
    ii. Mariel will send out invite for next call
d. Continue to make weekly requests (Thursday afternoon)
    i. Send updated info below by NOON on Thursday
    ii. Info requested: # cases, # facilities with cases, within facility transmission, onset of first/last case, vaccination recommendations in facilities, and any complications/hospitalizations

Quarterly Activity Summary for Vaccine-Preventable Diseases SURVEILLANCE COORDINATION

Surveillance Coordination for NNDSS Vaccine Preventable Diseases and Enhanced Surveillance for Meningococcal Disease, Varicella, and Acute Flaccid Myelitis (ELC R1 CoAg)

Your responses below should briefly describe the status of VPD surveillance coordination activities in your jurisdiction. For each of the 7 milestones, select the progress level that best describes your jurisdiction's current status (i.e., exceeds expectations, meets expectations, needs improvement, no change from previous quarter) and provide a brief rationale (2-3 sentences) for your selection. You also have the option to describe specific successes and challenges related to each milestone. When completing this summary, it may be helpful to focus on the progress made toward the activities proposed by your jurisdiction in the application for the ELC R1 CoAg.

Period being assessed: October 1 - December 31, 2018
Jurisdiction: Washington State
Summary completed by: Amy Poel and Chas DeBolt

Milestone 1: Enhance investigation, response and reporting for VPDs (1a)

- Describe status of activities to establish a VPD surveillance coordinator position that will:
  - serve as a point of contact for selected vaccine-preventable diseases (VPDs) for which surveillance is conducted through NNDSS or the ELC R1 coAg, including, but not limited to measles, mumps, rubella, congenital rubella syndrome, varicella, pertussis, *H. influenzae*, meningococcal disease, tetanus, diphtheria, invasive pneumococcal disease, paralytic poliomyelitis, non-paralytic poliovirus infection, and acute flaccid myelitis (understanding that these activities may or may not be a duty of the VPD Surveillance Coordinator);
  - ensure the use of standard investigative questionnaires, data sharing tools, and methods;
  - lead/assist in the timely investigations of cases, clusters, and outbreaks; and
  - engage in ongoing evaluation of ELC R1 CoAg activities.
- Describe status of activities listed in application related to meningococcal disease, varicella and AFM

Jurisdiction Status and Rationale
Progress level selection for milestone 1: Exceeds expectations
Rationale for selection (2-3 sentences): The current VPD surveillance coordinator, Amy Poel, has served as a WA DOH point of contact for LHJ's and CDC since Q4 2016, and continues work to improve and standardize VPD surveillance activities. We confirmed ten cases (two reported in Q3 2018), ruled out one case and reported one new suspect case of AFM. We reported four confirmed H flu cases, four confirmed cases of invasive meningococcal disease, and one confirmed measles during the Q4, 2018 reporting period. Isolates from all cases were obtained. Of the four H flu isolates, three were type F, while that from the other case was due to type D. Of the four meningococcal isolates, two were serogroup C, and two were serogroup B. The measles case was imported. While we are reporting smaller numbers of mumps cases, the statewide mumps outbreak that began in November

2016 continues. The state reported 4 confirmed and 8 probable cases October-December 2018 from among the 86 mump reports received.

Additional Narrative (Optional)

Successes: From September-December 2018, a cluster of twelve suspect AFM cases were reported from seven Western Washington counties. In all cases, clinical specimens, clinical reports, and MRI images were obtained and forwarded to CDC for all suspect cases. A HAN was issued to local health officers after the first three cases in the cluster were reported. At this time the AFM guidelines for local health were updated, and a procedure was put into place to update suspect/confirmed case counts on the department website as new suspect cases were reported to DOH and new confirmation of suspect cases was reported to DOH by CDC.

The VPD surveillance coordinator and one of the Washington State assigned EIS officers presented data and information on AFM to a diverse internal group of epidemiologists.

Challenges: The measles case we reported was much like the index case reported in Q3- a Ukrainian orphan being hosted for a home stay by a family with unvaccinated children. In the Q4 case, the monitoring period for symptoms in the host family is ongoing as of the time this activity summary. Both hosting program headquarters are not located in Washington State. It would be ideal if an education program could be developed for host organizations to inform them about the ongoing measles outbreak in Ukraine and the need for host families to be vaccinated for measles.

The part time epidemiologist who focued on mumps, Nhan Le, left for a position as an epidemiologist at the Urban Indian Health Institute in Seattle. A replacement, Nick Graff, has been hired and will begin 1/14/2019.

Milestone 2: **Improve surveillance to drive public health action (1b)**

- Describe status of activities to:
  - Develop, implement, and maintain surveillance systems.
  - Conduct regular assessment of surveillance data through:
    - review of surveillance Indicator reports biannually (provisional and final) and
    - review of surveillance data regularly (e.g., quarterly) to identify areas for improvement (e.g., electronic, programmatic).
  - Evaluate and enhance surveillance systems based on CDC guidelines.
- Describe status of activities listed in application related to meningococcal disease, varicella and AFM**.**

Jurisdiction Status and Rationale

Progress level selection for milestone 2: Exceeds expectations

Rationale for selection (2-3 sentences): Our new disease reporting system (WDRS) went live June 25. In Q4, we continued working to understanding how to best use WDRS, how to communicate with the LHJ's, where to find needed information, and how to classify cases. In Q4 we were able to begin to extract pertussis surveillance data from WDRS and use it for generating reports.

Additional Narrative (Optional)

Successes: We were able to begin producing the weekly pertussis surveillance report by week 50 which provied timely as many counties to report increasing numbers of pertussis cases to the state. A new AFM spreadsheet was implemented which enabled the VPD surveillance coodinator to capture all information from the patient summary form, the immunization record, dates supplmentary clinical, MRI, and laboratory data were sent to CDC, dates clinical specimens were sent to CDC, dates of 60 day follow-up, and dates that cases were confirmed by CDC in one document. This will prove useful if additional AFM surveillance activities occur in 2019.

Challenges: We have yet to extract surveillance data for meningococcal disease, h flu, and AFM from WDRS. Although we now know this is achievable, other activities have not allowed us to work on this project yet.

Milestone 3: Implement and evaluate epidemiologic public health practice, prevention and control strategies (1c)

- Describe status of activities to:
  - Develop and advance policies for the prevention, detection, and control of VPDs.
  - Participate in evaluations related to vaccination programs.

Jurisdiction Status and Rationale

Progress level selection for milestone 3: Meets expectations

Rationale for selection (2-3 sentences): The VPD surveillance coordinator has continued to collect maternal Tdap status and dates of vaccination for infants pertussis cases that are classified as confirmed, probable, or PCR+ suspect, with an eye towards an ever larger sample size for comparing severity outcomes between infant cases with mothers vaccinated per ACIP reccomendations vs. those whose mothers were not. This information has been summarized on line lists showing cases with onsets 2015 to the present. A WDRS prompt to LHJs for collecting maternal Tdap status as well as DOH ability to assign tasks like getting length of hospitalization and ICU admit status, has streamlined the process of collecting this data.

Additional Narrative (Optional)

Successes: The VPD suveillance coordinator was able to enter serogrouping and antibiotic sensitivity information into WDRS for all mening cases and serotyping for all h flu cases reported since May 2018. This will allow the VPD team to move away from the need to maintain linelists outside of WDRS for mening and h flu surveillance.
Challenges: Due to the impact of WDRS implementation on staff time, we were not able to begin the scheduled review and revision of mening, hflu, and pertussis guidelines in 2018. This has been rescheduled for Q1 2019.

Milestone 4: Improve coordination and collaboration for VPD surveillance and laboratory activities (1d)

- Describe the status of activities to:
  - Foster collaboration among city, county, state and federal partners, and other external partners.
  - Support and integrate epidemiology, laboratory, immunization, and health information activities.
- Describe status of activities listed in application related to meningococcal disease and varicella.

Jurisdiction Status and Rationale
Progress level selection for milestone 4: Meets expectations
Rationale for selection (2-3 sentences): VPD surveillance staff work regularly with health education (and other) staff in the Office of Immunization and Child Profile (OICP) to develop education materials and press releases related to both VPD surveillance issues and to producing health promotion materials to encourage vaccination coverage for children and adults. The VPD surveillance coordinator sends out reminders weekly about data quality concerns discovered during DOH review and classification of the electronic VPD case reports. In addition, VPD staff attend a phone conference held twice a month to discuss current cases with the 4 largest health jurisdictions in the state as well as a monthly conference call with all of the health jurisdictions. WA PHL provided support to two local health jurisdictions reporting community varicella outbreaks: one new community varicella outbreaks in Q4 and one on-going from Q2 and Q3.

Additional Narrative (Optional)
Successes: IIn Q4, we worked with the bioterrorism lab group at WA PHL to facilitate testing of at least one varicella case in each varicella cluster or outbreak. This was motivated by two outbreaks of hand, foot, mouth disease that were initially thought to be varicella outbreaks. Washington has always struggled to get providers to confirm varicella clusters and outbreaks with laboratory testing. One recent objecion given by providers was a reluctance to pass on the cost of testing to their patients. Testing at PHL eliminates the cost barrier. It has still be difficult to help providers understand how to ship varicella specimens properly to WA PHL.

Challenges:
We have struggled to help small healthcare providers with the appropriate training and materials to transport suspect varicella specimens to WA PHL.

One of the main providers of lab testing in the state has experienced a large uptick in testing volume due to a large hospital system using this provider exclusively for testing. In the past, this lab has been extremely poor at passing through specimens to WA PHL. The uptick in volume has exacerbated this problem.

Milestone 5: Sustain and enhance laboratory diagnostic capacity (2a)

- Describe status of activities to:
  - Support maintenance of culture, serotyping/serogrouping, and other modern, pathogen-specific diagnostic and surveillance testing capacities within state public health laboratories, and/or available through regional reference centers and/or CDC laboratories.
  - Implement a plan for flexible use and acquisition of laboratory supplies and testing that addresses changing/multi-disease purposes and needs.
  - Ensure linkage of laboratory specimens with available epidemiologic and clinical case-patient data.
- Describe status of activities listed in application related to meningococcal disease and AFM.

Jurisdiction Status and Rationale

Progress level selection for milestone 5: Meets expectations

Rationale for selection (2-3 sentences):
We continue to submitt all pertussis and meningococcal isolates (and H flu isotes when requested) to CDC. We maintain and submit to CDC linelists of clinical and epidemiological data that can be linked to the isolates using both Washington and CDC specific identifiers.

Electronic lab reporting directly into WDRS has vastly improved our ability to integrate data collection around lab results into our epidemiology surveillance data.

Additional Narrative (Optional)

Successes: The time from receipt of MRI images to confirmation or rule out from CDC has dropped dramatically in the recent fall 2018 AFM cluster. In turn, this has helped the VPD surveillance coordinator by eliminating frustrations by local health investigators. This timeliness has inturn resulted in more local health investigators performing the 60 day follow-ups.

Challenges: Because of a delay in the availability of DRIVE, a program that will push electronic lab reports into the new WDRS surveillance database, LHJ staff will have to manually enter lab results for communicable disease conditions for the rest of this calendar year. DRIVE is estimated for to be up

and running by the end of Q1 2019. In order to facilitate uniform collection of H flu, N mening, and C diphth testing results, the VPD surveillance coordinator is doing the data entery of these lab reports (for lab work performed at WA PHL) into WDRS for the LHJ's

Milestone 6: Improve laboratory coordination and outreach/ information flow (2b)

- Describe status of activities to coordinate increased access to isolates so that test results can be linked to surveillance activities and data.
- Describe status of activities listed in application related to meningococcal disease.

Jurisdiction Status and Rationale
Progress level selection for milestone 6: Exceeds expectations
Rationale for selection (2-3 sentences): We routinely follow up ASAP with the LHJ when we receive email notification that an invasive meningococcal or H. influenzae case has been reported to assure that the LHJ contacts the isolating laboratory to discuss/request submission of the isolate the PHL (required by law, but does not always happen). We continue to archive these isolates for our twice a year shipment and maintain a line list linking them to clinical data.

Additional Narrative (Optional)
Successes: Serogrouping/serotyping was performed on all four meningococcal isolates and 4 H influenzae isolates received in the fourth quarter 2018.
Challenges: Since all H flu and mening electronic test results are being entered into WDRS, it has resulted in challenges for communication between VPD and the LHJ's. Since the VPD team now sees lab results before the LHJ has had time to vet them and determine if the specimens are from non-sterile sites, the VPD team is seeing more "cases" in WDRS that end up being not reportable.

Milestone 7: Sustain and enhance integrated surveillance information systems (3c)

- Describe status of activities to support coordination of VPD surveillance with surveillance information systems (e.g., NNDSS, Immunization Information Systems, ELR, HL7 messages) to enhance use and exchange of electronic data files.

Jurisdiction Status and Rationale
Progress level selection for milestone 7: Meets expectations

Rationale for selection (2-3 sentences): As mentioned in Milestone 2, the new state disease reporting system (WDRS) is up and running as of 6/25/18. WDRS is expected to better support the provision of WA case data information to CDC (NNDSS). We are planning to ask for feedback from the VPD team at CDC to confirm this is true for 2018, pre and post WDRS. The workflows in WDRS provide timely reminders within the system to prompt state and LHJ staff to enter cases in a complete manner.

Additional Narrative (Optional)

Successes: The VPD surveillance coordinator has begun work on presentation to be given to the LHJ's in two epidemiology "road shows" (one on the east side of the state and one on the west side of the state) in May 2019 that will highlight how the data that is entered into WDRS by the LHJ's is then used by communicable disease epidemiologists at the state level before diving into how th edata is sent to CDC using various surveillance information systems. It is hoped that by showing the process of how data moves, it will provide motivation for local staff to provide complete information.

Challenges: Since the WDRS replica database intendend for obtaining surveillance data from WDRS did not work as planned, we are relying on an ad hoc reporting tool to obtain surveillance data. WDRS does not provide e-mail reminders of new VPD suspect cases so staff need to remember to log in to check the workflow queues for new cases.

Date: **January 2, 2019**

From: Michelle Holshue, MPH, BSN, RN
LCDR, US Public Health Service
EIS Class of 2018, CDC/OPHSS/CSELS/DSEPD/EWB
Washington State Department of Health
Office of the State Health Officer

Subject: **EIS Monthly Report, December 2018**

To: Jennifer Wright, DVM, MPH, DACVPM
CAPT, US Public Health Service
(EIS Field Supervisor)

Scott Lindquist, MD, MPH
State for Epidemiologist for Communicable Diseases (Primary Supervisor)

Marcia Goldoft, MD, MPH
Medical Epidemiologist (Secondary Supervisor)

William Glover, PhD
Director of Science and Technology, Public Health Lab (Secondary Supervisor)

I. New Investigations

A. Outbreaks: No new outbreaks

B. Non-Acute Investigations: No new investigations

II. Continuing Investigations/Projects

A. **TASS (EPI-AID 18-0040):** Continued work on the investigation of Toxic Anterior Segment Syndrome (TASS) after Cataract Surgery in three facilities in King County, WA, one facility in Kitsap County, WA, and one facility in Skagit County, WA. I trained 5 WA DOH staff members to assist with chart abstraction.

B. **Acute Flaccid Myelitis (AFM) outbreak in Washington State (HSR #** 2019-00050)
Acute Flaccid Myelitis (AFM) is a rare but serious condition causing acute paralysis. From 2014-2017, Washington State had 16 cases of AFM confirmed by the CDC, with increases in 2014 and 2016 which have been recognized as a temporal pattern across the United States. In Washington, cases are again increasing in 2018. One new suspected case of AFM reported this month, for a total of 10 confirmed and 2 suspect cases in 2018. I delivered the monthly Epi Lunch & Learn Lecture to an audience of WA DOH, local health jurisdiction, and University of Washington clinical partners to provide an update about state AFM surveillance in 2018. I created a combined line list of all cases to consolidate information and facilitate analysis. I also met with the WA DOH Vaccine Preventable Disease (VPD) team and my primary supervisor to plan our follow up of cases from 2017 & 2018.

C. **Varicella outbreak in San Juan County, Washington (HSR#** 2019-00051)
Varicella is a highly contagious disease caused by Varicella zoster virus (VZV). After an extended outbreak of VZV affected multiple islands in San Juan County, San Juan County Health Services (the local health department) requested assistance from the WA DOH. After working closely with San Juan County in November, a few more cases were

reported with samples submitted for VZV testing at WA DOH and for enterovirus testing at CDC.

D. **West Nile Virus Surveillance System Evaluation in Washington State** (HSR# 2019-00052)
West Nile virus (WNV) is spread by mosquitos. Human cases of WNV were first recognized in Washington State in 2006, with local transmission occurring east of the Cascade Mountains. In 2018, the first confirmed human case of WNV occurring west of the Cascades was reported in King County – the most densely populated county in the state of Washington, and a county which has not had active mosquito surveillance since 2009. I presented initial findings of my surveillance evaluation at the EIS Fall Course in Atlanta on 12/7. To further assess the surveillance efforts, I completed additional analyses and GIS mapping for evaluation of case distribution among human, equine, avian cases of WNV compared to the location of mosquito surveillance traps in the state. I will present these updated findings to the WA DOH in January of 2019.

III. Miscellaneous

A. **Leave Taken:** 12/31 (1 Day)
B. Public inquiries: None
C. Courses/trainings/webinars attended, lectures given, meetings attended
- **a. Trainings and webinars:**
  - **i. CDC Trainings (Completed!)**
    1. 12/21: CDC Telework Training
    2. 12/21: CDC Ethics Orientation
    3. 12/21: NoFEAR Act Training
    4. 12/21: SIQT Overview
    5. 12/21: Records Refresher
    6. 12/26: HRP Training
  - **ii. Webinars:**
    1. 12/11: TMS
    2. 12/13: Anti-Bullying (2 hours)
    3. 12/18: TMS
    4. 12/20: AFM Surveillance Updates
  - **iii. WA DOH Mandatory Training:**
    1. 12/26: Sexual Harassment and Other Harassment and Prevention Training (3 hours)
  - **iv. WA DOH Communicable Disease Epi Lectures/Trainings:**
    1. 12/14: On-call Training (1 hour)
    2. 12/18: WTF: Human-Animal TB Transmission (1 hour)
    3. 12/21: On-call Training (1 hour)
    4. 12/28: On-call Training (1 hour)
  - **v. Miscellaneous Training:**
    1. 12/9: Intro to R (Approx. 2 hours)
    2. 12/26 and 12/27: Intro to QGIS Course (6 hours)
- **b. Lectures given:**
  - i. 12/7: WNV Surveillance System Evaluation Presentation, Atlanta, GA
  - **ii.** 12/19: Acute Flaccid Myelitis in Washington, Tumwater, WA
- **c. Meetings:**
  - i. 12/18: WA Ebola Response Planning Meeting

ii. Meeting with WA DOH primary supervisor (weekly) and secondary supervisors (Daily/as needed)
iii. WA DOH CDEpi Morning Meeting (Daily)

D. Upcoming annual leave and official travel planned (with dates):

a. **Annual leave:**
   i. December 31, 2018 (1 Day)

b. Official travel:
   i. No Travel Planned

E. Photographic Documentation CAL:

EIS Fall Course Surveillance Presentation workgroup

First Snowshoe of 2018!
North Cascade Mountains

Cc: Renee Amos
EISOs assigned to:
Alaska: Amanda Tiffany (czv5)
Arizona: Carla Bezold (nrx7), Sarah Scott (oko1)
California: Corey Peak (yrn2), Yasser Bakhsh (nsc6), Howard Chiou (okl8), Lisa Oakley (vru2), Amy Heinzerling (ysf8)
Idaho: Bozena Morawski (nra5)
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Oregon: Alexander Wu (ohh5), Steven Rekant (wny6)
Utah: Roberta Horth (hxw5)
Washington: Kirsten Vannice (nrb8), Henry Njuguna (vkc7), Michelle Holshue (okn5)
Wyoming: Heather Rhodes (olz5)

Date: **January 2, 2019**

From: Michelle Holshue, MPH, BSN, RN
LCDR, US Public Health Service
EIS Class of 2018, CDC/OPHSS/CSELS/DSEPD/EWB
Washington State Department of Health
Office of the State Health Officer

Subject: **EIS Monthly Report, November 2018**

To: Jennifer Wright, DVM, MPH, DACVPM
CAPT, US Public Health Service
(EIS Field Supervisor)

Scott Lindquist, MD, MPH
State for Epidemiologist for Communicable Diseases (Primary Supervisor)

Marcia Goldoft, MD, MPH
Medical Epidemiologist (Secondary Supervisor)

William Glover, PhD
Director of Science and Technology, Public Health Lab (Secondary Supervisor)

I. New Investigations

A. Outbreaks: No new outbreaks

B. Non-Acute Investigations:

Tick Bourne Relapsing Fever Investigation, Orcas, WA (2 days – no HSR)

To investigate the first potential locally-acquired case of Tick Borne Relapsing Fever(TBRF) west of the Cascades/in the San Juan Islands, I joined an investigative team on Orcas Island to assist with 2 days of rodent trapping and soft tick collection. (Team comprised of staff from WA DOH, Public Health Seattle-King County, and NCEZID staff from Ft. Collins, CO.) Activities included building, placing, and monitoring soft tick traps, placing rodent traps, and assisting with set-up and break down of work site.

II. Continuing Investigations/Projects

A. **TASS (EPI-AID 18-0040):** Continued work on the investigation of Toxic Anterior Segment Syndrome (TASS) after Cataract Surgery in three facilities in King County, WA, and one facility in Kitsap County, WA, which reported 10 additional cases since the Epi-Aid ended. A 5th facility in Skagit County, WA reported a case which occurred in June 2018. Chart review ongoing for these additional cases.

B. **Acute Flaccid Myelitis (AFM) outbreak in Washington State (HSR #** 2019-00050)
Acute Flaccid Myelitis (AFM) is a rare but serious condition causing acute paralysis. From 2014-2017, Washington State had 16 cases of AFM confirmed by the CDC, with increases in 2014 and 2016 which have been recognized as a temporal pattern across the United States. In Washington, cases are again increasing in 2018. No new cases reported this month, but previously reported persons under investigation (PUI) have been confirmed by CDC.

C. **Varicella outbreak in San Juan County, Washington (HSR#** 2019-00051)

Varicella is a highly contagious disease caused by Varicella zoster virus (VZV). After an extended outbreak of VZV affected multiple islands in San Juan County, San Juan County Health Services (the local health department) requested assistance from the WA DOH. I travelled to San Juan Islands and spent 3 days working with the Communicable Disease Epi Nurse to help contact potential cases, improve the line list, follow up with medical providers of cases, and review medical records. From a thorough medical review, it became apparent that recent cases of Varicella may have been misdiagnosed cases of Hand, Foot, & Mouth Disease (HFMD). With support of the WA DOH Public Health Lab (PHL) and the WA DOH Vaccine Preventable Disease (VPD) team, I helped the county health department arrange for confirmatory testing of a number of clinical samples for both VZV (via commercial and the State Public Health Lab) and enterovirus (via commercial and CDC lab). We were able to confirm our suspicion of a dual outbreak of both VZV (confined to one island) and HFMD (across multiple islands). To help providers differentiate among cases, I created documentation for the county to distribute comparing the clinical presentation, disease course, and sample collection for both diseases.

D. **West Nile Virus Surveillance System Evaluation in Washington State** (HSR# 2019-00052)
West Nile virus (WNV) is spread by mosquitos. Human cases of WNV were first recognized in Washington State in 2006, with local transmission occurring east of the Cascade Mountains. In 2018, the first confirmed human case of WNV occurring west of the Cascades was reported in King County – the most densely populated county in the state of Washington, and a county which has not had active mosquito surveillance since 2009. Working with WA DOH Vector Borne Diseases (VBD) team and other stakeholders, I began conducting stakeholder interviews as the first step in completing an analysis of the WNV surveillance system in Washington State. The results of the Surveillance analysis will be presented at the EIS Fall Course in December, and to WA DOH and other partners.

III. Miscellaneous

A. **Leave Taken:** Nov. 19-21, 2018 (3 Days)
B. Public inquiries: Public inquires related to VZV/HFMD while on San Juan Island.
C. Courses/trainings/webinars attended, lectures given, meetings attended
- **a. Trainings and webinars:**
  - **i. CDC Trainings: None**
  - **ii. Webinars:**
    1. 11/13: AFM CDC COCA Call, (1 hour)
  - **iii. WA DOH Mandatory Training: None**
  - **iv. WA DOH Communicable Disease Epi Lectures/Trainings:**
    1. 11/2: On-call Training (1 hour)
    2. 11/9: On-call Training (1 hour)
    3. 11/16: On-call Training (1 hour)
    4. 11/30: On-call Training (1 hour)
- **b. Lectures given: None**
- **c. Meetings:**
  - i. Meeting with WA DOH primary supervisor (weekly) and secondary supervisors (Daily/as needed)
  - ii. WA DOH CDEpi Morning Meeting (Daily)

D. Upcoming annual leave and official travel planned (with dates):

a. **Annual leave:**

i. Nov. 19-21, 2018 (3 Days) + Thanksgiving Holiday Nov. 22-23 (2 Days)

b. Official travel:

i. EIS Fall Course: Dec. 3-7,2018 (5 Days)

E. Photographic Documentation CAL:

Placing Tick Traps,
Orcas Island, WA

Comet Falls,
Mt. Rainer National Park

Cc: Renee Amos
EISOs assigned to:
Alaska: Amanda Tiffany (czv5)
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Wyoming: Heather Rhodes (olz5)

ELC Mumps Tier II Kickoff Call

October 19th, 2018

Presentation (Mariel Marlow):

- While 2018 appears to have less mumps activity than the previous two years, mumps cases/outbreaks have now been reported in almost every jurisdiction so far this year
- Data from 9 sites that participated in ELC FY17 mumps activities was the first time able to capture detailed outbreak data; data informed ACIP recommendation and CDC mumps outbreak guidance, as well as projects pending final data merge
- CDC launched mumps website for health departments that includes new CDC mumps outbreak guidance and resources
    - Link to website: https://www.cdc.gov/mumps/health-departments
        - CDC guidance on use of 3rd MMR dose during outbreaks
        - Provider job-aid for mumps testing
        - Optimizing mumps testing
    - Other resources:
        - Instructional video for providers on proper buccal swab collection https://www.youtube.com/watch?v=ThvoJBjsUvQ
        - Mumps Outbreak Communication Toolkit; Send request to ncirddvdmmrhp@cdc.gov
- ELC FY18 mumps activities logistics:
    - Data will be submitted quarterly
        - First data submission in January will include Aug-Dec 2018 data (1st and 2nd quarter)
        - Subsequent data submission in April and July
    - Opt-in mumps community distribution list will be created
        - To support communications between and among jurisdictions on mumps specific questions, issues, or outbreak response challenges (e.g. population-specific communication materials, provider questions, exclusion policy)
        - Guidelines for use of the distribution list and how to unsubscribe will be included in the introduction email
- Public health questions for ELC FY18 mumps data
    - Review suspect case definition
        - Send suspect cases in addition to probable and confirmed
    - Using ICD10 codes to estimate provider underreporting or diagnosis
        - Send ICD10 codes **** this was removed as a data element later after the discussion*
    - Characteristics of 3rd MMR dose vaccinees
        - Send complete information on cases with 3 doses (emphasis on vaccination and onset dates)
    - Evaluate timing of laboratory testing to describe mumps testing practices, evaluate timing vs test result, and compare with recommended testing guidance
        - Send complete lab data, emphasis on dates and all results (pos and **negative**)
    - Molecular sequencing – building a genetic mumps database
        - Submit PCR + specimen to VPD Reference Center or CDC
        - Be sure to include all identifiers to be able to link sequencing results with case data
    - Key variables to collect complete information

        - NNDSS ID (if possible)
        - Epi link (Y/N)
        - Date of first symptom onset
        - Date of parotitis onset
        - Date of parotitis end OR duration of parotitis (days)
        - Dates of vaccination
        - Complications (Y/N)
        - Complication onset dates
        - Date of collection for specimens
        - Date specimen(s) received at lab
        - Date specimen(s) results
        - Laboratory result(s) (including positive **and negative results**)
        - Type of laboratory where tested (PHL, VPD-RC, CDC, commercial)
        - Genotype (if submitted for genotyping)
    - Please let CDC mumps team know if there are any mumps-specific projects in your jurisdiction that could also be supported by data from the Tier 2 ELC mumps activity (e.g., specific projects that could benefit from larger sample sizes across jurisdictions)

Discussion/Q&A:

- Most jurisdictions do not collect ICD-10 codes.
    - WA collects them for hospitalized patients.
    - Could collect this from hospitalized patients if we feel it is helpful in the future
    - Based on feedback, ICD10 codes do not need to be submitted; please let CDC mumps team know if you are able to collect ICD10 mumps codes, through surveillance or other data sources
- Syndromic surveillance for mumps (BioSense):
    - Use syndromic for mumps: MA, GA (GA willing to share code with others)
    - Use syndromic for other diseases: ND, KS, WA, OH, LA, NYC
    - Does not use syndromic at all: NE, IA, IL, PA
- GA and IL cannot send currently send NNDSS ID for mumps data for ELC tier II activity
- REDCap
    - LA- Since cannot track any key variables through NBS until the MMG is released, LA created a REDCap investigation page and have been tracking the Surveillance Worksheet and other relevant fields in REDCap already.

Date: **January 2, 2019**

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Director of Science and Technology, Public Health Lab (Secondary Supervisor)

I. New Investigations

A. Outbreaks:

Acute Flaccid Myelitis (AFM) outbreak in Washington State (HSR # 2019-00050)

Acute Flaccid Myelitis (AFM) is a rare but serious condition causing acute paralysis. From 2014-2017, Washington State had 16 cases of AFM confirmed by the CDC, with increases in 2014 and 2016 which have been recognized as a temporal pattern across the United States. In Washington, cases are again increasing in 2018. In October, after working with the Washington State Department of Health (WA DOH) Center for Public Affairs and CDC communications staff to prepare public remarks, and received clearance to help DOH respond to requests for TV and radio interviews for local news media. I conducted 3 TV, 3 radio, and 1 phone interview during the month of October.

Varicella outbreak in San Juan County, Washington (HSR# 2019-00051)

Varicella is a highly contagious disease caused by Varicella zoster virus (VZV). After an extended outbreak of VZV affected multiple islands in San Juan County, San Juan County Health Services (the local health department) requested assistance from the WA DOH. I worked collaboratively with the WA DOH Vaccine Preventable Diseases team to help San Juan County improve case tracking and reporting, and helped support a 1-day vaccine clinic for pediatric vaccinations on Orcas Island. I also worked to plan a week of work at the San Juan County Health Services office in November.

B. Non-Acute Investigations:

West Nile Virus Surveillance System Evaluation in Washington State (HSR# 2019-00052)

West Nile virus (WNV) is spread by mosquitos. Human cases of WNV were first recognized in Washington State in 2006, with local transmission occurring east of the Cascade Mountains. In 2018, the first confirmed human case of WNV occurring west of the Cascades was reported in King County – the most densely populated county in the state of Washington, and a county which has not had active mosquito surveillance since 2009. Working with WA DOH Vector Borne Diseases (VBD) team and other stakeholders, I began conducting stakeholder interviews as the first step in completing an analysis of the WNV surveillance system in Washington State. The results of the Surveillance analysis will be presented at the EIS Fall Course in December, and to WA DOH and other partners.

II. Continuing Investigations/Projects

A. **TASS (EPI-AID 18-0040):** Continued work on the investigation of Toxic Anterior Segment Syndrome (TASS) after Cataract Surgery in three facilities in King County, WA, and one facility in Kitsap County, WA, which reported 10 additional cases since the Epi-Aid ended. A 5th facility in Skagit County, WA reported a case which occurred in June 2018. Chart review ongoing for these additional cases.

III. Miscellaneous

A. Leave Taken: None.

B. Public inquiries: AFM Media interviews: 3 TV interviews, 3 Radio interviews, 1 phone interview. Various public inquires handled related to AFM cases and vaccination.

C. Courses/trainings/webinars attended, lectures given, meetings attended

a. Trainings and webinars:

i. CDC Trainings:

1. CDC Overview of Federal Records Management
2. Dual Use Research and Dual Use Research of Concern
3. Emergency Preparedness

ii. Webinars:

1. TMS 10/2
2. TMS + Post-TMS: 10/23
3. TMS + Post-TMS: 10/30

iii. WA DOH Mandatory Training

1. 10/18: Statewide Shake Out! Earthquake Drill (1 hour)
2. 10/30: DOH State Public Records Disclosure Training (1 hour)
3. 10/30: WA State Ethics in Government Training (1.5 hours)

iv. WA DOH Communicable Disease Epi Lectures/Trainings:

1. 10/9: International Refugee Health Experiences (1 hour)
2. 10/12: On-call Training (1 hour)
3. 10/19: On-call Training (1 hour)
4. 10/26: On-call Training (1 hour)

b. Lectures given: None

c. Meetings:

i. 10/4-10/5: West Coast Epi Meeting, Portland, OR (2 Days)
ii. 10/15-10/18: Washington State Public Health Association Conference, Wentachee, WA (3 Days)
iii. Meeting with WA DOH primary supervisor (weekly) and secondary supervisors (Daily/as needed)
iv. 10/26: Phone meeting with EWB Field Supervisor
v. WA DOH CDEpi Morning Meeting (Daily)

D. Upcoming annual leave and official travel planned (with dates):

a. **Annual leave:**

i. Nov. 19-21, 2018 (3 Days)

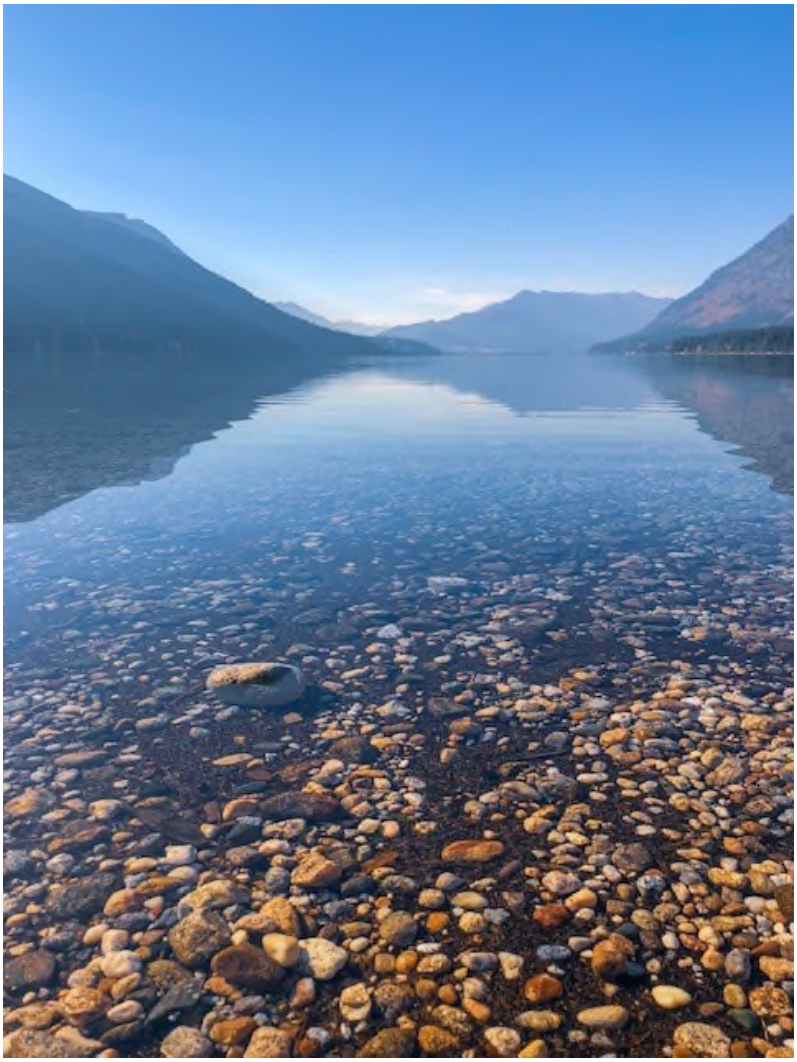
b. Official travel:

i. EIS Fall Course: Dec. 3-7,2018 (5 Days)

E. Photographic Documentation CAL:

Jumping for joy at West Coast Epi

Conducting TV interviews for AFM



Lake Wenatchee State Park

Cc: Renee Amos
EISOs assigned to:
Alaska: Amanda Tiffany (czv5), Maya Ramaswamy (ohj0)
Arizona: Carla Bezold (nrx7), Sarah Scott (oko1)
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Wyoming: Heather Rhodes (olz5)

Revised EDN TB Follow-Up Worksheet 2018: Overview of Revisions and Additions

Amanda Dam, MPH

DGMQ/IRMHB/MHINx Unit

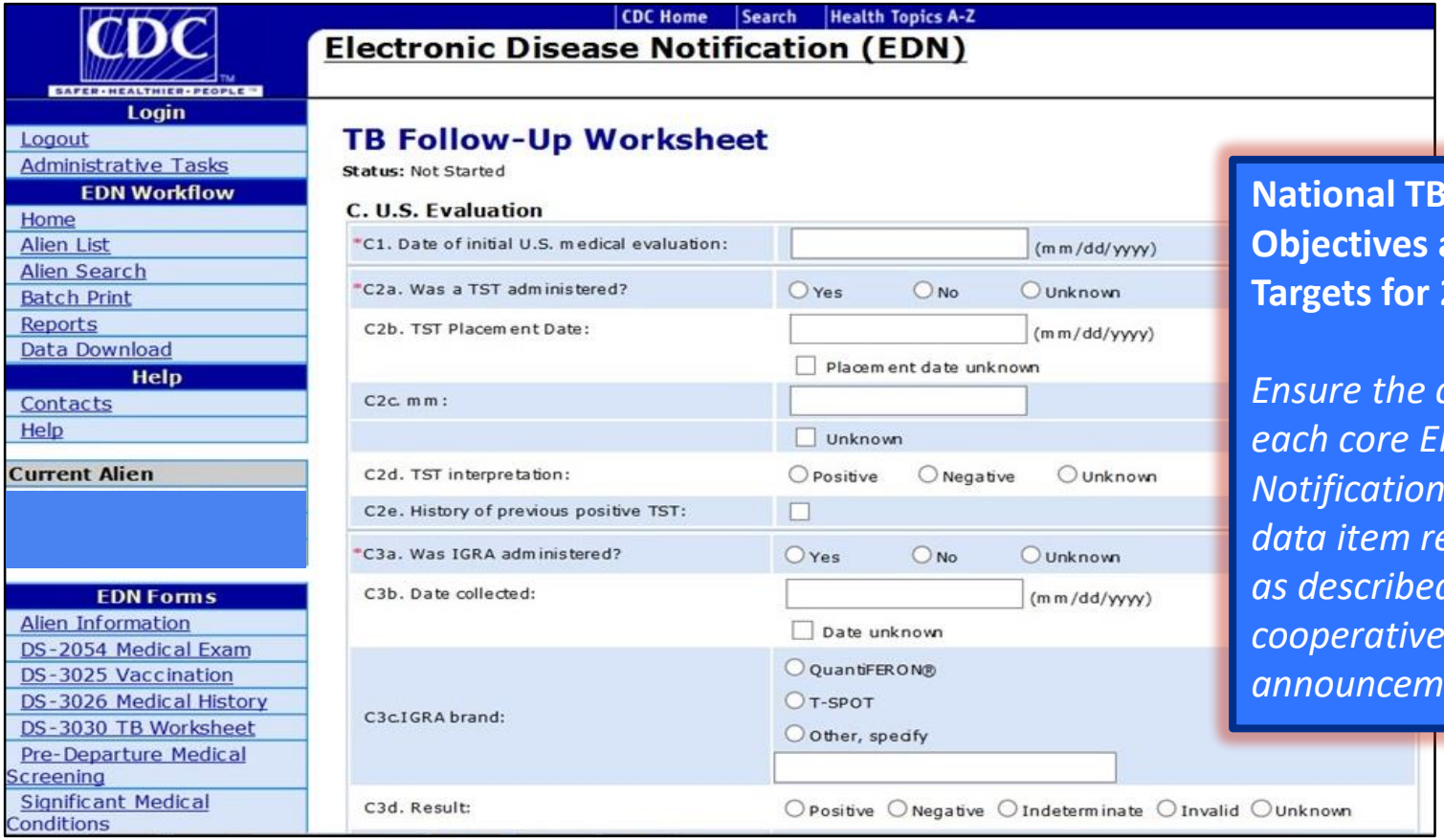
December 2018

Background

- EDN[1] notifies U.S. health departments of refugees and persons with TB classification, under authority of the Immigration and Nationality Act (8 US Code 1522).
- US health departments complete the EDN TB Follow-Up Worksheet for persons with TB classifications who have arrived in the United States.
- CDC's Division of Global Migration and Quarantine, Division of TB Elimination, and other federal partners use this information to assess overseas panel physician performance, overseas prevention activities, and TB control program performance in the United States.
  - EDN TB follow-up data are used for CDC's National Tuberculosis Indicators Project (NTIP)
- The EDN TB Follow-Up Worksheet was revised in 2018 to clarify wording, expand selection options, and specify the LTBI[2] regimen used.

[1] Electronic Disease Notification System
[2] Latent tuberculosis infection

EDN TB Follow-Up Worksheet



National TB Program Objectives and Performance Targets for 2020:

Ensure the completeness of each core Electronic Disease Notification (EDN) system data item reported to CDC, as described in the TB cooperative agreement announcement.

Important Dates

1. All TB Follow-Up records may be entered using the current version* of the EDN TB Follow-Up Worksheet prior to January 31, 2019.

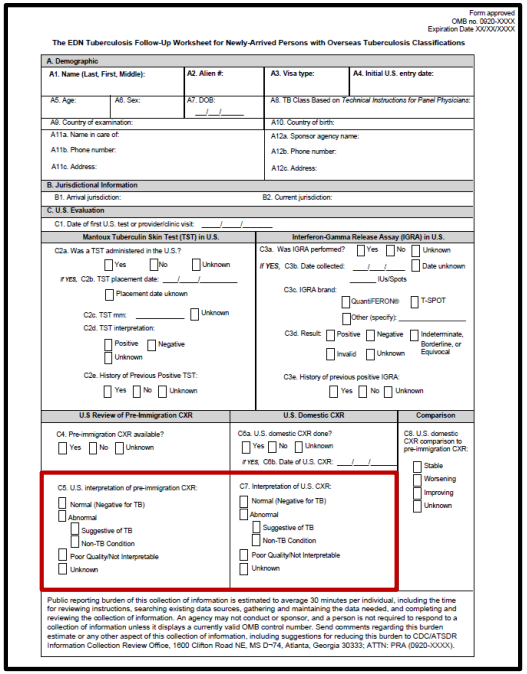
2. The revised EDN TB Follow-Up Worksheet 2018 must be used starting January 31, 2019 (*proposed EDN System release date*).

3. Any completed worksheets that are re-opened after January 31, 2019 will be populated into the revised EDN TB Follow-Up Worksheet 2018, and any missing required fields will need to be entered.

**Current* version refers to the EDN TB Follow-Up worksheet was released in 2013.

Key Sections of Revisions and Additions

Revision 1



Form approved
OMB no. 0920-XXXX
Expiration Date XX/XX/XXXX

The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

A. Demographic

A1. Name (Last, First, Middle):	A2. Alien #:	A3. Visa type:	A4. Initial U.S. entry date:
A5. Age: / A6. Sex:	A7. DOB: __/__/____	A8. TB Class Based on *Technical Instructions for Panel Physicians*:	

A9. Country of examination: A10. Country of birth:

A11a. Name in care of: A12a. Sponsor agency name:

A11b. Phone number: A12b. Phone number:

A11c. Address: A12c. Address:

B. Jurisdictional Information

B1. Arrival jurisdiction: B2. Current jurisdiction:

C. U.S. Evaluation

C1. Date of first U.S. test or provider/clinic visit: ____/____/____

Mantoux Tuberculin Skin Test (TST) in U.S.

C2a. Was a TST administered in the U.S.? ☐ Yes ☐ No ☐ Unknown

If YES, C2b. TST placement date: ____/____/____ ☐ Placement date unknown

C2c. TST mm: _____ ☐ Unknown

C2d. TST interpretation: ☐ Positive ☐ Negative ☐ Unknown

C2e. History of Previous Positive TST: ☐ Yes ☐ No ☐ Unknown

Interferon-Gamma Release Assay (IGRA) in U.S.

C3a. Was IGRA performed? ☐ Yes ☐ No ☐ Unknown

If YES, C3b. Date collected: ____/____/____ ☐ Date unknown

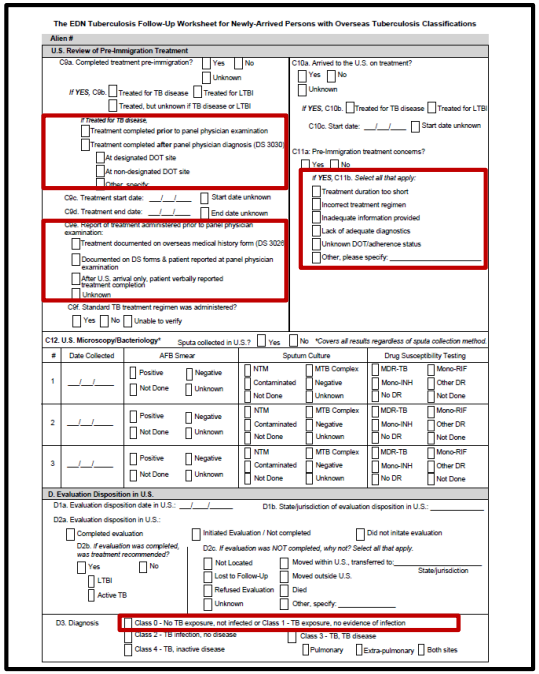
C3c. IGRA brand: _____ IUs/Spots ☐ QuantiFERON® ☐ T-SPOT ☐ Other (specify): _____

C3d. Result: ☐ Positive ☐ Negative ☐ Indeterminate, Borderline, or Equivocal ☐ Invalid ☐ Unknown

C3e. History of previous positive IGRA: ☐ Yes ☐ No ☐ Unknown

U.S Review of Pre-Immigration CXR	U.S. Domestic CXR	Comparison
C4. Pre-immigration CXR available? ☐ Yes ☐ No ☐ Unknown	C5a. U.S. domestic CXR done? ☐ Yes ☐ No ☐ Unknown *If YES,* C5b. Date of U.S. CXR: ____/____/____	C6. U.S. domestic CXR comparison to pre-immigration CXR: ☐ Stable ☐ Worsening ☐ Improving ☐ Unknown
C5. U.S. interpretation of pre-immigration CXR: ☐ Normal (Negative for TB) ☐ Abnormal ☐ Suggestive of TB ☐ Non-TB Condition ☐ Poor Quality/Not Interpretable ☐ Unknown	C7. Interpretation of U.S. CXR: ☐ Normal (Negative for TB) ☐ Abnormal ☐ Suggestive of TB ☐ Non-TB Condition ☐ Poor Quality/Not Interpretable ☐ Unknown	

Revisions 2a-2c



The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

Alien #

U.S. Review of Pre-Immigration Treatment

C9a. Completed treatment pre-immigration? ☐ Yes ☐ No ☐ Unknown

If YES, C9b. ☐ Treated for TB disease ☐ Treated for LTBI ☐ Treated, but unknown if TB disease or LTBI

If Treated for TB disease:
☐ Treatment completed prior to panel physician examination
☐ Treatment completed after panel physician diagnosis (DS 3030)
☐ At designated DOT site
☐ At non-designated DOT site
☐ Other, specify: _____

C9c. Treatment start date: ____/____/____ ☐ Start date unknown

C9d. Treatment end date: ____/____/____ ☐ End date unknown

C9e. Report of treatment administered prior to panel physician examination:
☐ Treatment documented on overseas medical history form (DS 3025)
☐ Documented on DS forms & patient reported at panel physician examination
☐ After U.S. arrival only, patient verbally reported treatment completion
☐ Unknown

C9f. Standard TB treatment regimen was administered? ☐ Yes ☐ No ☐ Unable to verify

C10a. Arrived to the U.S. on treatment? ☐ Yes ☐ No ☐ Unknown

If YES, C10b. ☐ Treated for TB disease ☐ Treated for LTBI

C10c. Start date: ____/____/____ ☐ Start date unknown

C11a. Pre-immigration treatment concerns? ☐ Yes ☐ No

If YES, C11b. *Select all that apply:*
☐ Treatment duration too short
☐ Incorrect treatment regimen
☐ Inadequate information provided
☐ Lack of adequate diagnostics
☐ Unknown DOT/adherence status
☐ Other, please specify: _____

C12. U.S. Microscopy/Bacteriology* Sputa collected in U.S.? ☐ Yes ☐ No **Covers all results regardless of sputa collection method*

#	Date Collected	AFB Smear	Sputum Culture	Drug Susceptibility Testing
1	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done
2	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done
3	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done

D. Evaluation Disposition in U.S.

D1a. Evaluation disposition date in U.S.: ____/____/____ D1b. State/jurisdiction of evaluation disposition in U.S.: _____

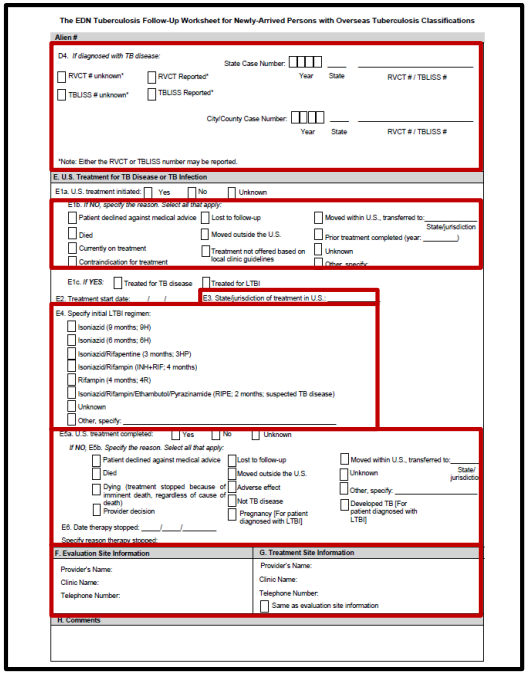
D2a. Evaluation disposition in U.S.:
☐ Completed evaluation ☐ Initiated Evaluation / Not completed ☐ Did not initiate evaluation

D2b. *If evaluation was completed, was treatment recommended?* ☐ Yes ☐ No
☐ LTBI ☐ Active TB

D2c. *If evaluation was NOT completed, why not? Select all that apply.*
☐ Not Located ☐ Moved within U.S., transferred to: _____ State/jurisdiction
☐ Lost to Follow-Up ☐ Moved outside U.S.
☐ Refused Evaluation ☐ Died
☐ Unknown ☐ Other, specify: _____

D3. Diagnosis
☐ Class 0 - No TB exposure, not infected or Class 1 - TB exposure, no evidence of infection
☐ Class 2 - TB infection, no disease ☐ Class 3 - TB, TB disease
☐ Class 4 - TB, inactive disease ☐ Pulmonary ☐ Extra-pulmonary ☐ Both sites

Revisions 3a-3h



The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

Alien #

D4. *If diagnosed with TB disease:*
☐ RVCT # unknown* ☐ RVCT Reported* State Case Number: ☐☐☐ ____ _____ Year State RVCT # / TBLISS #
☐ TBLISS # unknown* ☐ TBLISS Reported*
City/County Case Number: ☐☐☐ ____ _____ Year State RVCT # / TBLISS #

*Note: Either the RVCT or TBLISS number may be reported.

E. U.S. Treatment for TB Disease or TB Infection

E1a. U.S. treatment initiated: ☐ Yes ☐ No ☐ Unknown

E1b. *If NO, specify the reason. Select all that apply:*
☐ Patient declined against medical advice ☐ Lost to follow-up ☐ Moved within U.S., transferred to: _____ State/jurisdiction
☐ Died ☐ Moved outside the U.S. ☐ Prior treatment completed (year: _____)
☐ Currently on treatment ☐ Treatment not offered based on local clinic guidelines ☐ Unknown
☐ Contraindication for treatment ☐ Other, specify: _____

E1c. *If YES:* ☐ Treated for TB disease ☐ Treated for LTBI

E2. Treatment start date: ____/____/____ E3. State/jurisdiction of treatment in U.S.: _____

E4. Specify initial LTBI regimen:
☐ Isoniazid (9 months; 9H)
☐ Isoniazid (6 months; 6H)
☐ Isoniazid/Rifapentine (3 months; 3HP)
☐ Isoniazid/Rifampin (INH+RIF; 4 months)
☐ Rifampin (4 months; 4R)
☐ Isoniazid/Rifampin/Ethambutol/Pyrazinamide (RIPE; 2 months; suspected TB disease)
☐ Unknown
☐ Other, specify: _____

E5a. U.S. treatment completed: ☐ Yes ☐ No ☐ Unknown

If NO, E5b. *Specify the reason. Select all that apply:*
☐ Patient declined against medical advice ☐ Lost to follow-up ☐ Moved within U.S., transferred to: _____ State/jurisdiction
☐ Died ☐ Moved outside the U.S. ☐ Unknown
☐ Dying (treatment stopped because of imminent death, regardless of cause of death) ☐ Adverse effect ☐ Other, specify: _____
☐ Provider decision ☐ Not TB disease ☐ Developed TB [For patient diagnosed with LTBI]
☐ Pregnancy [For patient diagnosed with LTBI]

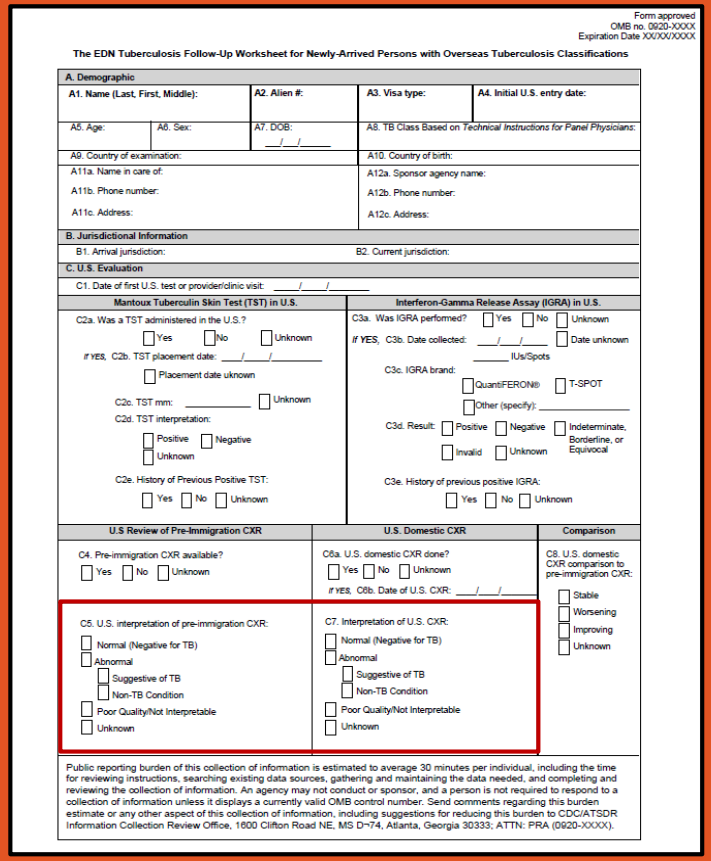
E6. Date therapy stopped: ____/____/____

Specify reason therapy stopped:

F. Evaluation Site Information	G. Treatment Site Information
Provider's Name:	Provider's Name:
Clinic Name:	Clinic Name:
Telephone Number:	Telephone Number: ☐ Same as evaluation site information

H. Comments

Revision 1. Changes in the “U.S. Review of Pre-Immigration CXR” and “U.S. Domestic CXR” Sections



Form approved
OMB no. 0920-XXXX
Expiration Date XX/XX/XXXX

The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

A. Demographic

A1. Name (Last, First, Middle):	A2. Alien #:	A3. Visa type:	A4. Initial U.S. entry date:

A5. Age: | A6. Sex: | A7. DOB: ___/___/_____ | A8. TB Class Based on *Technical Instructions for Panel Physicians*:

A9. Country of examination: | A10. Country of birth:

A11a. Name in care of: | A12a. Sponsor agency name:

A11b. Phone number: | A12b. Phone number:

A11c. Address: | A12c. Address:

B. Jurisdictional Information

B1. Arrival jurisdiction: | B2. Current jurisdiction:

C. U.S. Evaluation

C1. Date of first U.S. test or provider/clinic visit: ____/____/_____

Mantoux Tuberculin Skin Test (TST) in U.S.

C2a. Was a TST administered in the U.S.? ☐ Yes ☐ No ☐ Unknown

If YES, C2b. TST placement date: ___/___/_____ ☐ Placement date uknown

C2c. TST mm: _____ ☐ Unknown

C2d. TST interpretation: ☐ Positive ☐ Negative ☐ Unknown

C2e. History of Previous Positive TST: ☐ Yes ☐ No ☐ Unknown

Interferon-Gamma Release Assay (IGRA) in U.S.

C3a. Was IGRA performed? ☐ Yes ☐ No ☐ Unknown

If YES, C3b. Date collected: ___/___/_____ ☐ Date unknown

_____ IUs/Spots

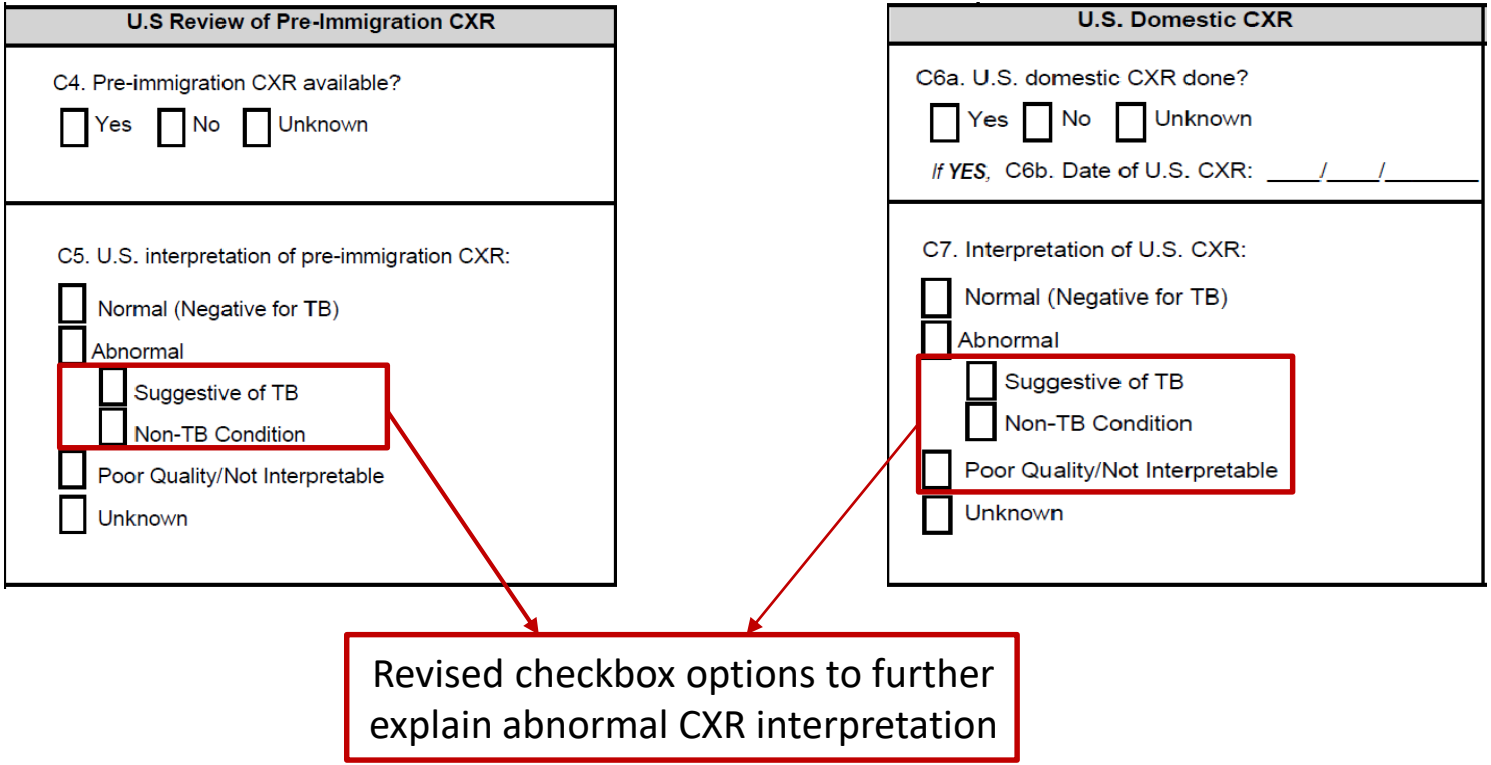
C3c. IGRA brand: ☐ QuantiFERON® ☐ T-SPOT ☐ Other (specify): _____

C3d. Result: ☐ Positive ☐ Negative ☐ Indeterminate, Borderline, or Equivocal ☐ Invalid ☐ Unknown

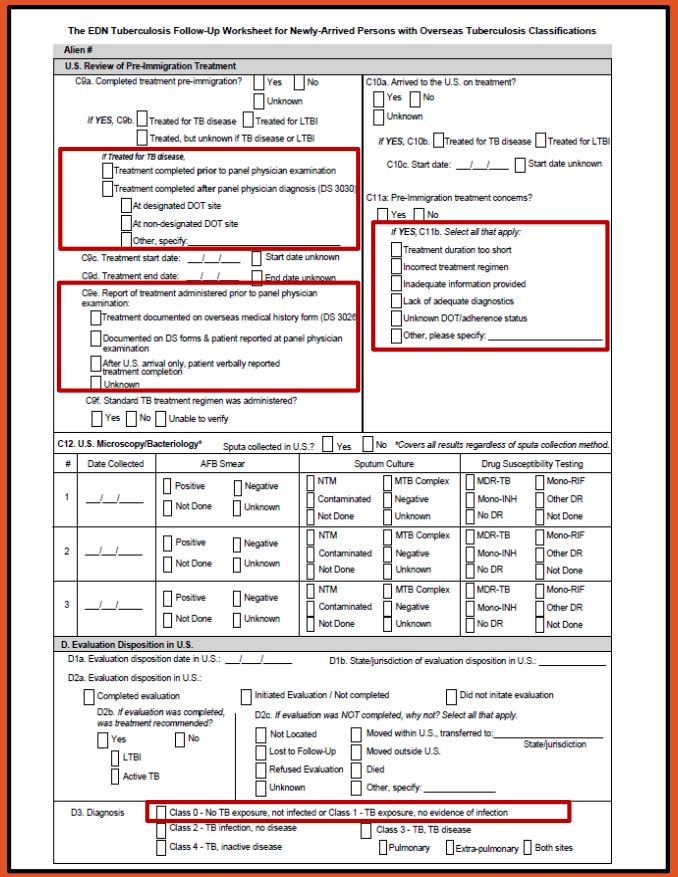
C3e. History of previous positive IGRA: ☐ Yes ☐ No ☐ Unknown

U.S Review of Pre-Immigration CXR	U.S. Domestic CXR	Comparison
C4. Pre-immigration CXR available? ☐ Yes ☐ No ☐ Unknown	C6a. U.S. domestic CXR done? ☐ Yes ☐ No ☐ Unknown *If YES,* C6b. Date of U.S. CXR: ___/___/_____	C8. U.S. domestic CXR comparison to pre-immigration CXR: ☐ Stable ☐ Worsening ☐ Improving ☐ Unknown
C5. U.S. interpretation of pre-immigration CXR: ☐ Normal (Negative for TB) ☐ Abnormal ☐ Suggestive of TB ☐ Non-TB Condition ☐ Poor Quality/Not Interpretable ☐ Unknown	C7. Interpretation of U.S. CXR: ☐ Normal (Negative for TB) ☐ Abnormal ☐ Suggestive of TB ☐ Non-TB Condition ☐ Poor Quality/Not Interpretable ☐ Unknown	

Revision 1. "U.S. Review of Pre-Immigration CXR" and "U.S. Domestic CXR"



Revisions 2a-2c. Changes in the "U.S. Review of Pre-Immigration Treatment" Section



The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

Alien #

U.S. Review of Pre-Immigration Treatment

C9a. Completed treatment pre-immigration? ☐ Yes ☐ No ☐ Unknown

If YES, C9b. ☐ Treated for TB disease ☐ Treated for LTBI ☐ Treated, but unknown if TB disease or LTBI

If Treated for TB disease,
- ☐ Treatment completed prior to panel physician examination
- ☐ Treatment completed after panel physician diagnosis (DS 3030)
  - ☐ At designated DOT site
  - ☐ At non-designated DOT site
  - ☐ Other, specify: _____

C9c. Treatment start date: __/__/____ ☐ Start date unknown

C9d. Treatment end date: __/__/____ ☐ End date unknown

C9e. Report of treatment administered prior to panel physician examination:
- ☐ Treatment documented on overseas medical history form (DS 3026)
- ☐ Documented on DS forms & patient reported at panel physician examination
- ☐ After U.S. arrival only, patient verbally reported treatment completion
- ☐ Unknown

C9f. Standard TB treatment regimen was administered? ☐ Yes ☐ No ☐ Unable to verify

C10a. Arrived to the U.S. on treatment? ☐ Yes ☐ No ☐ Unknown

If YES, C10b. ☐ Treated for TB disease ☐ Treated for LTBI

C10c. Start date: __/__/____ ☐ Start date unknown

C11a: Pre-Immigration treatment concerns? ☐ Yes ☐ No

If YES, C11b. *Select all that apply:*
- ☐ Treatment duration too short
- ☐ Incorrect treatment regimen
- ☐ Inadequate information provided
- ☐ Lack of adequate diagnostics
- ☐ Unknown DOT/adherence status
- ☐ Other, please specify: _____

C12. U.S. Microscopy/Bacteriology* Sputa collected in U.S.? ☐ Yes ☐ No **Covers all results regardless of sputa collection method.*

#	Date Collected	AFB Smear	Sputum Culture	Drug Susceptibility Testing
1	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done
2	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done
3	__/__/____	☐ Positive ☐ Negative ☐ Not Done ☐ Unknown	☐ NTM ☐ MTB Complex ☐ Contaminated ☐ Negative ☐ Not Done ☐ Unknown	☐ MDR-TB ☐ Mono-RIF ☐ Mono-INH ☐ Other DR ☐ No DR ☐ Not Done

D. Evaluation Disposition in U.S.

D1a. Evaluation disposition date in U.S.: __/__/____ D1b. State/jurisdiction of evaluation disposition in U.S.: _____

D2a. Evaluation disposition in U.S.:

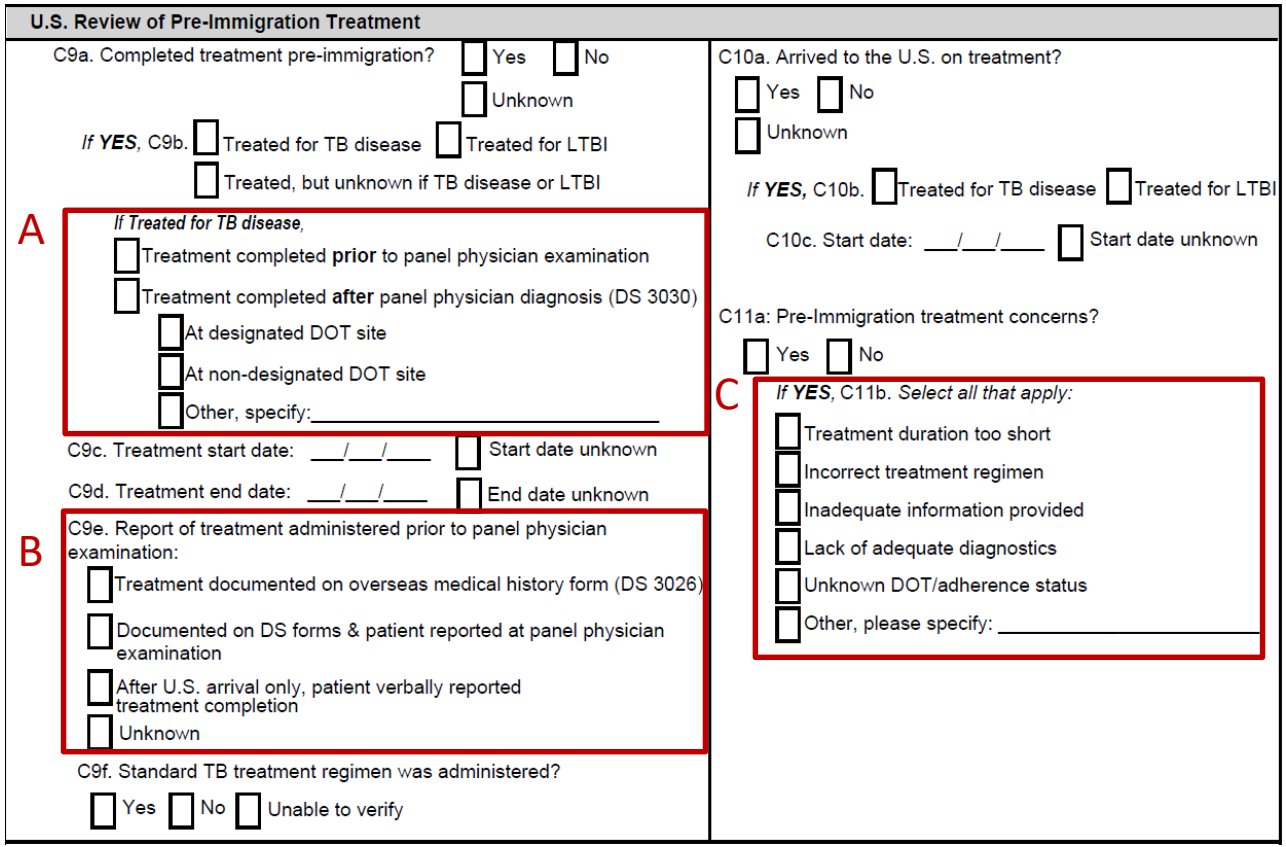
☐ Completed evaluation ☐ Initiated Evaluation / Not completed ☐ Did not initate evaluation

D2b. *If evaluation was completed, was treatment recommended?* ☐ Yes ☐ No
- ☐ LTBI
- ☐ Active TB

D2c. *If evaluation was NOT completed, why not? Select all that apply.*
- ☐ Not Located
- ☐ Lost to Follow-Up
- ☐ Refused Evaluation
- ☐ Unknown
- ☐ Moved within U.S., transferred to: _____ State/jurisdiction
- ☐ Moved outside U.S.
- ☐ Died
- ☐ Other, specify: _____

D3. Diagnosis
- ☐ Class 0 - No TB exposure, not infected or Class 1 - TB exposure, no evidence of infection
- ☐ Class 2 - TB infection, no disease
- ☐ Class 3 - TB, TB disease
  - ☐ Pulmonary ☐ Extra-pulmonary ☐ Both sites
- ☐ Class 4 - TB, inactive disease

Revisions 2a-2c. "U.S. Review of Pre-Immigration Treatment"



U.S. Review of Pre-Immigration Treatment

C9a. Completed treatment pre-immigration? ☐ Yes ☐ No ☐ Unknown

*If **YES**,* C9b. ☐ Treated for TB disease ☐ Treated for LTBI ☐ Treated, but unknown if TB disease or LTBI

A

If Treated for TB disease,

☐ Treatment completed **prior** to panel physician examination

☐ Treatment completed **after** panel physician diagnosis (DS 3030)

☐ At designated DOT site

☐ At non-designated DOT site

☐ Other, specify:_____

C9c. Treatment start date: ___/___/____ ☐ Start date unknown

C9d. Treatment end date: ___/___/____ ☐ End date unknown

B

C9e. Report of treatment administered prior to panel physician examination:

☐ Treatment documented on overseas medical history form (DS 3026)

☐ Documented on DS forms & patient reported at panel physician examination

☐ After U.S. arrival only, patient verbally reported treatment completion

☐ Unknown

C9f. Standard TB treatment regimen was administered?

☐ Yes ☐ No ☐ Unable to verify

C10a. Arrived to the U.S. on treatment?

☐ Yes ☐ No ☐ Unknown

*If **YES,*** C10b. ☐ Treated for TB disease ☐ Treated for LTBI

C10c. Start date: ___/___/____ ☐ Start date unknown

C11a: Pre-Immigration treatment concerns?

☐ Yes ☐ No

C

*If **YES**,* C11b. *Select all that apply:*

☐ Treatment duration too short

☐ Incorrect treatment regimen

☐ Inadequate information provided

☐ Lack of adequate diagnostics

☐ Unknown DOT/adherence status

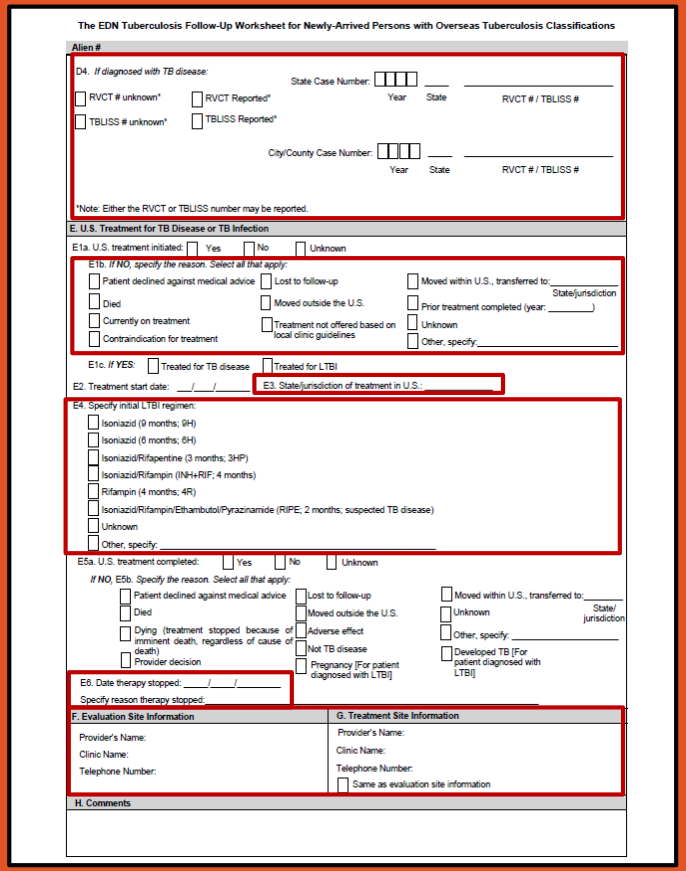
☐ Other, please specify: _____

A. Added reasons for "If treated for TB disease"

B. Revised reasons for reported treatment

C. Additional checkbox options to explain pre-immigration treatment concerns if any

Revisions 3a-3h. Changes in the "Evaluation Disposition in U.S.," "U.S. Treatment for TB Disease or TB Infection," and "Evaluation and Treatment Site Information" Sections



The EDN Tuberculosis Follow-Up Worksheet for Newly-Arrived Persons with Overseas Tuberculosis Classifications

Alien #

D4. *If diagnosed with TB disease:*

State Case Number: ☐☐☐☐ ____ _____
Year State RVCT # / TBLISS #

☐ RVCT # unknown* ☐ RVCT Reported*

☐ TBLISS # unknown* ☐ TBLISS Reported*

City/County Case Number: ☐☐☐☐ ____ _____
Year State RVCT # / TBLISS #

*Note: Either the RVCT or TBLISS number may be reported.

E. U.S. Treatment for TB Disease or TB Infection

E1a. U.S. treatment initiated: ☐ Yes ☐ No ☐ Unknown

E1b. *If NO, specify the reason. Select all that apply:*

☐ Patient declined against medical advice ☐ Lost to follow-up ☐ Moved within U.S., transferred to:_____ State/jurisdiction
☐ Died ☐ Moved outside the U.S. ☐ Prior treatment completed (year: _____)
☐ Currently on treatment ☐ Treatment not offered based on local clinic guidelines ☐ Unknown
☐ Contraindication for treatment ☐ Other, specify:_____

E1c. *If YES:* ☐ Treated for TB disease ☐ Treated for LTBI

E2. Treatment start date: ___/___/_____ E3. State/jurisdiction of treatment in U.S.:_____

E4. Specify initial LTBI regimen:

☐ Isoniazid (9 months; 9H)
☐ Isoniazid (6 months; 6H)
☐ Isoniazid/Rifapentine (3 months; 3HP)
☐ Isoniazid/Rifampin (INH+RIF; 4 months)
☐ Rifampin (4 months; 4R)
☐ Isoniazid/Rifampin/Ethambutol/Pyrazinamide (RIPE; 2 months; suspected TB disease)
☐ Unknown
☐ Other, specify: _____

E5a. U.S. treatment completed: ☐ Yes ☐ No ☐ Unknown

If NO, E5b. *Specify the reason. Select all that apply:*

☐ Patient declined against medical advice ☐ Lost to follow-up ☐ Moved within U.S., transferred to:_____ State/jurisdiction
☐ Died ☐ Moved outside the U.S. ☐ Unknown
☐ Dying (treatment stopped because of imminent death, regardless of cause of death) ☐ Adverse effect ☐ Other, specify: _____
☐ Provider decision ☐ Not TB disease ☐ Developed TB [For patient diagnosed with LTBI]
☐ Pregnancy [For patient diagnosed with LTBI]

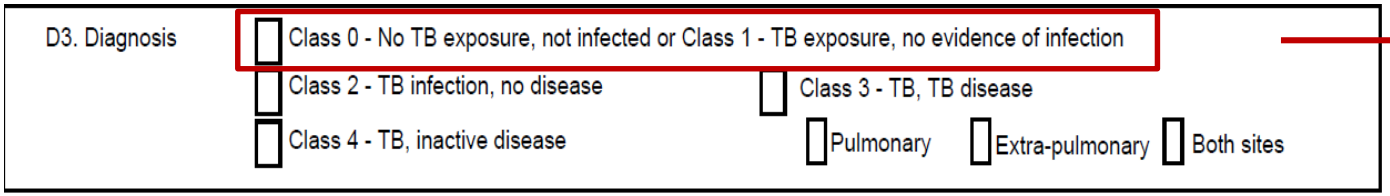
E6. Date therapy stopped: ___/___/_____

Specify reason therapy stopped: _____

F. Evaluation Site Information	G. Treatment Site Information
Provider's Name:	Provider's Name:
Clinic Name:	Clinic Name:
Telephone Number:	Telephone Number:
	☐ Same as evaluation site information

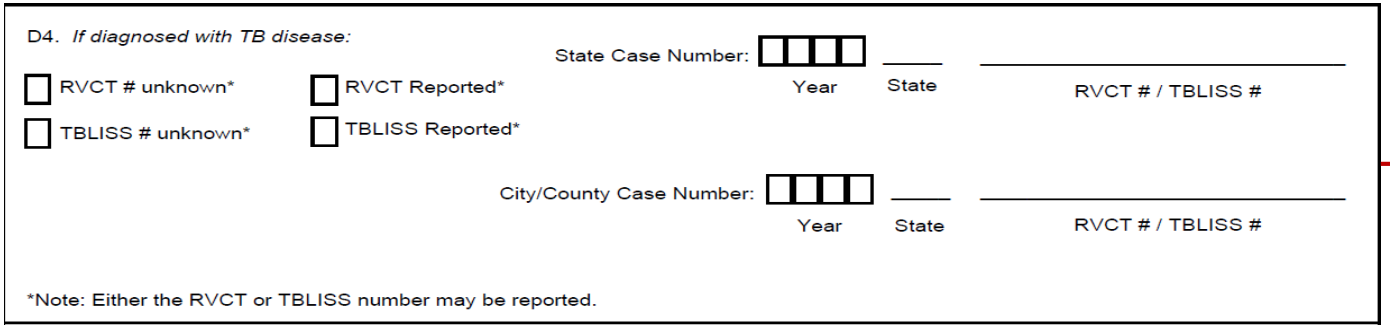
H. Comments

Revision 3a. “Evaluation Disposition in U.S.”



Class 0 TB and Class 1 TB are now combined into one checkbox option

Revision 3b. “Evaluation Disposition in U.S.”


D4. *If diagnosed with TB disease:*

☐ RVCT # unknown* ☐ RVCT Reported*

☐ TBLISS # unknown* ☐ TBLISS Reported*

State Case Number: ☐☐☐☐ ____ _____

Year State RVCT # / TBLISS #

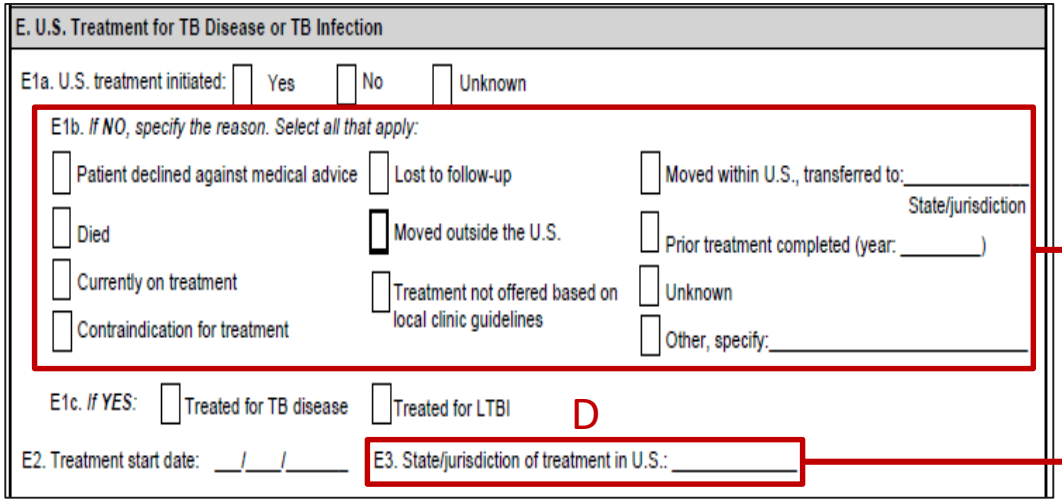
City/County Case Number: ☐☐☐☐ ____ _____

Year State RVCT # / TBLISS #

*Note: Either the RVCT or TBLISS number may be reported.

Addition of RVCT numbers, TBLISS numbers, and other related information

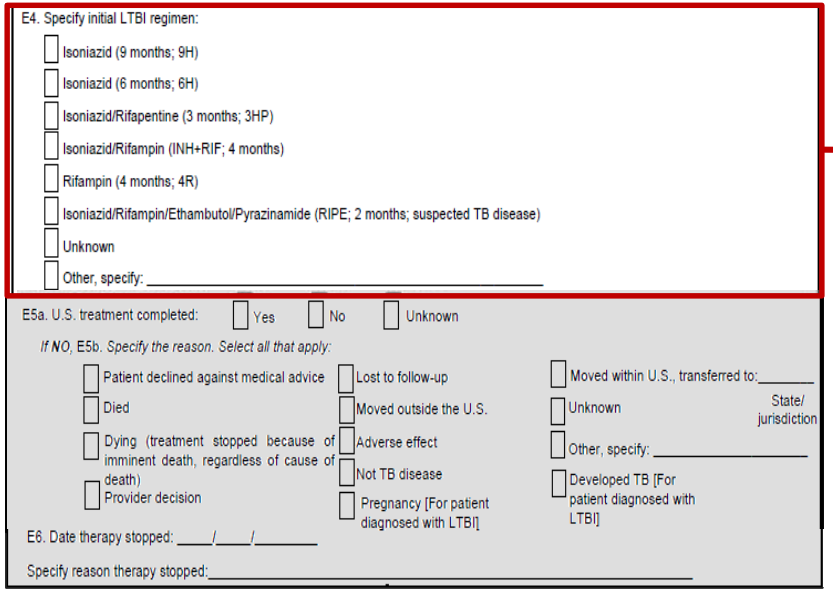
Revisions 3c and 3d. “U.S. Treatment for TB Disease or TB Infection”



C. Additional checkbox options to specify the reason for no initiation of U.S. treatment

D. New addition of field to list the state/jurisdiction of treatment in the United States

Revision 3e. “U.S. Treatment for TB Disease or TB Infection”



E4. Specify initial LTBI regimen:

- ☐ Isoniazid (9 months; 9H)
- ☐ Isoniazid (6 months; 6H)
- ☐ Isoniazid/Rifapentine (3 months; 3HP)
- ☐ Isoniazid/Rifampin (INH+RIF; 4 months)
- ☐ Rifampin (4 months; 4R)
- ☐ Isoniazid/Rifampin/Ethambutol/Pyrazinamide (RIPE; 2 months; suspected TB disease)
- ☐ Unknown
- ☐ Other, specify: _____

E5a. U.S. treatment completed: ☐ Yes ☐ No ☐ Unknown

If NO, E5b. Specify the reason. Select all that apply:

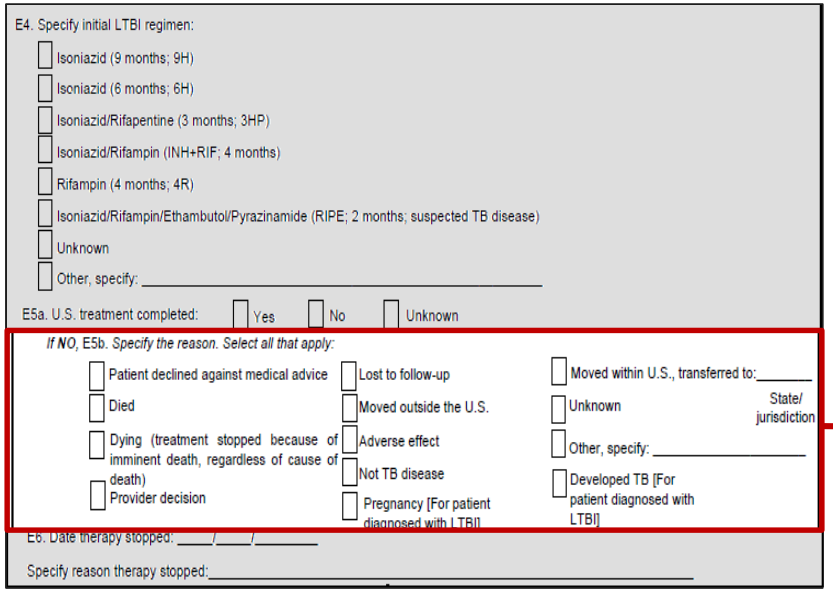
- ☐ Patient declined against medical advice
- ☐ Died
- ☐ Dying (treatment stopped because of imminent death, regardless of cause of death)
- ☐ Provider decision
- ☐ Lost to follow-up
- ☐ Moved outside the U.S.
- ☐ Adverse effect
- ☐ Not TB disease
- ☐ Pregnancy [For patient diagnosed with LTBI]
- ☐ Moved within U.S., transferred to: _____ State/ jurisdiction
- ☐ Unknown
- ☐ Other, specify: _____
- ☐ Developed TB [For patient diagnosed with LTBI]

E6. Date therapy stopped: ____/____/_____

Specify reason therapy stopped: _____

Added section to specify initial LTBI regimen

Revision 3f. "U.S. Treatment for TB Disease or TB Infection"



E4. Specify initial LTBI regimen:

- ☐ Isoniazid (9 months; 9H)
- ☐ Isoniazid (6 months; 6H)
- ☐ Isoniazid/Rifapentine (3 months; 3HP)
- ☐ Isoniazid/Rifampin (INH+RIF; 4 months)
- ☐ Rifampin (4 months; 4R)
- ☐ Isoniazid/Rifampin/Ethambutol/Pyrazinamide (RIPE; 2 months; suspected TB disease)
- ☐ Unknown
- ☐ Other, specify: _____

E5a. U.S. treatment completed: ☐ Yes ☐ No ☐ Unknown

*If **NO**, E5b. Specify the reason. Select all that apply:*

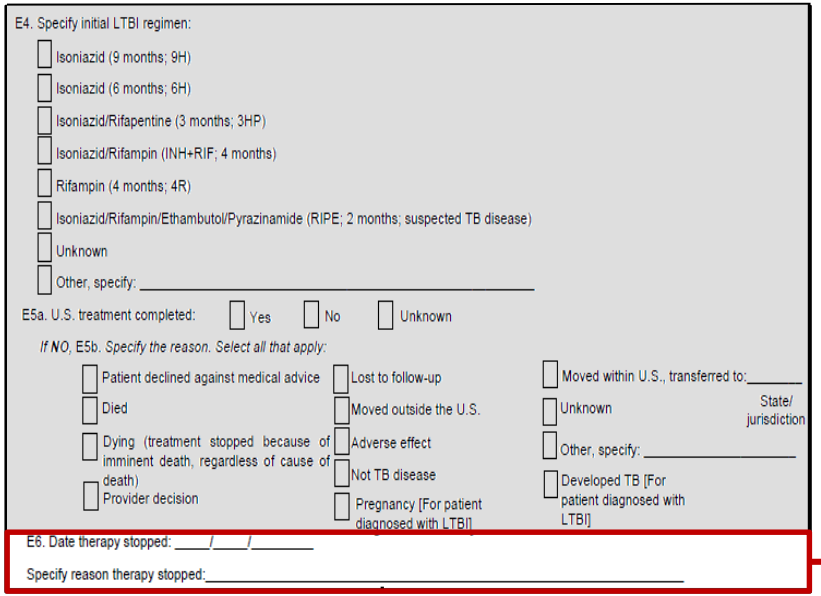
- ☐ Patient declined against medical advice
- ☐ Died
- ☐ Dying (treatment stopped because of imminent death, regardless of cause of death)
- ☐ Provider decision
- ☐ Lost to follow-up
- ☐ Moved outside the U.S.
- ☐ Adverse effect
- ☐ Not TB disease
- ☐ Pregnancy [For patient diagnosed with LTBI]
- ☐ Moved within U.S., transferred to: _____ State/ jurisdiction
- ☐ Unknown
- ☐ Other, specify: _____
- ☐ Developed TB [For patient diagnosed with LTBI]

E6. Date therapy stopped: ____/____/_____

Specify reason therapy stopped: _____

Added options to specify reason for incomplete U.S. treatment

Revision 3g. “U.S. Treatment for TB Disease or TB Infection”



E4. Specify initial LTBI regimen:

- ☐ Isoniazid (9 months; 9H)
- ☐ Isoniazid (6 months; 6H)
- ☐ Isoniazid/Rifapentine (3 months; 3HP)
- ☐ Isoniazid/Rifampin (INH+RIF; 4 months)
- ☐ Rifampin (4 months; 4R)
- ☐ Isoniazid/Rifampin/Ethambutol/Pyrazinamide (RIPE; 2 months; suspected TB disease)
- ☐ Unknown
- ☐ Other, specify: _____

E5a. U.S. treatment completed: ☐ Yes ☐ No ☐ Unknown

If NO, E5b. *Specify the reason. Select all that apply:*

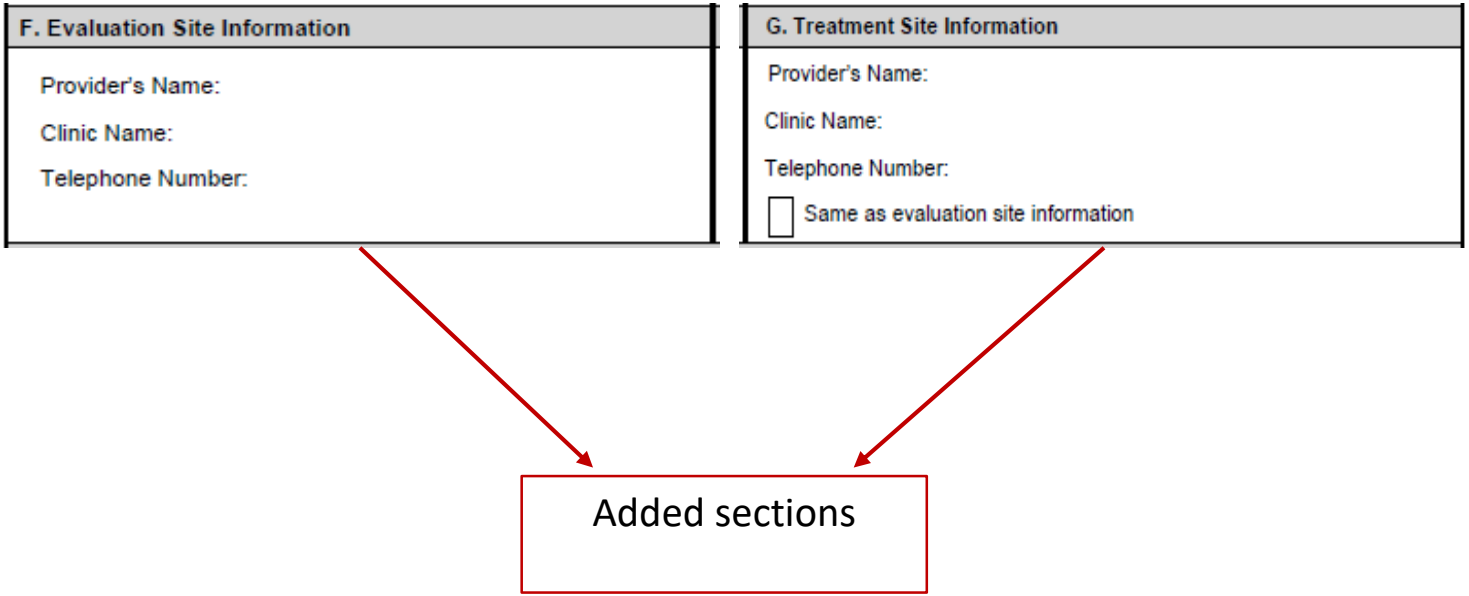
- ☐ Patient declined against medical advice
- ☐ Died
- ☐ Dying (treatment stopped because of imminent death, regardless of cause of death)
- ☐ Provider decision
- ☐ Lost to follow-up
- ☐ Moved outside the U.S.
- ☐ Adverse effect
- ☐ Not TB disease
- ☐ Pregnancy [For patient diagnosed with LTBI]
- ☐ Moved within U.S., transferred to:_____ State/ jurisdiction
- ☐ Unknown
- ☐ Other, specify: _____
- ☐ Developed TB [For patient diagnosed with LTBI]

E6. Date therapy stopped: ____/____/_____

Specify reason therapy stopped:_____

Added fields to specify the date therapy stopped and explain why therapy stopped

Revision 3h. “Evaluation and Treatment Site Information”



Key Takeaways

- The most significant change to the EDN TB Follow-Up Worksheet is the addition of a section to list the LTBI treatment regimen used.
- Important dates:
  1. All TB Follow-Up records may be entered using the current version* of the EDN TB Follow-Up Worksheet prior to January 31, 2019.

  2. The revised EDN TB Follow-Up Worksheet 2018 must be used starting January 31, 2019 (proposed EDN System release date).

  3. Any completed worksheets that are re-opened after January 31, 2019 will be populated into the revised EDN TB Follow-Up Worksheet 2018, and any missing required fields will need to be entered.

*_Current_ version refers to the EDN TB Follow-Up worksheet was released in 2013.

Reference

Additional information on the EDN TB Follow-Up Worksheet can be found on the Office of Management and Budget's website at https://www.reginfo.gov/public/do/PRAViewIC?ref_nbr=201804-0920-016&icID=231229

Thank you!
MHINx@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Mumps Data Collection Spreadsheet

**Please submit all cases reported*

Site Reporting:

Name of Person Reporting:

Phone:

Email:

Date Submitted:

Year of Report:

Total Number of Outbreaks:

Please list the total number of cases reported to your jurisdiction this year (if available):

Confirmed	
Probable	
Suspect	
Not A Case	

since August 1, 2018 (at each quarterly submission date)

Case ID	NNDSS ID	Case Status	County	Zip Code	DOB	Age	Ethnicity	Race

Demographics						
Sex	**Occupation**	**Attend or Employed at Daycare or School**	**Other Institutional Setting**	**Outbreak Related**	**Outbreak ID**	**Import Status**

First symptom reported	Onset date of first symptom reported	Parotitis or other salivary gland swelling	Parotitis Onset Date	Parotitis End Date

Duration of parotitis (days)	Clinical Notes	Meningitis	Meningitis Onset Date	Encephalitis

Encephalitis Onset Date	Hearing Loss	Hearing Loss Onset Date	Orchitis	Orchitis Onset Date	Orchitis End Date

Oophoritis	Oophoritis Onset Date	Mastitis	Mastitis Onset Date	Pancreatitis

			Epidemiology
Pancreatitis Onset Date	**Death**	**Hospitalized**	**Days Hospitalized**

Date Reported to Health Department	Transmission Setting	Other Transmission Setting	Outbreak Name

Source of Exposure	**Epi-linked to another confirmed or probable case**	**Travel during incubation period (25 days before onset)**	**Travel Destinations**	**Congregate Living Setting**

Other Congregate Living Setting	Testing Laboratory Type	Testing Laboratory Name	PCR Specimen Type1	PCR Specimen Lab ID1

Laboratory						
PCR Collection Date1	PCR Received at Lab Date1	PCR Result1	PCR Result Date1	PCR Specimen Type2	PCR Specimen Lab ID2	PCR Collection Date2

PCR Received at Lab Date2	PCR Result2	PCR Result Date2	Genotype	Sequence ID	IgM Collection Date1	IgM Received at Lab Date1

IgM Serum Lab ID1	IgM Result1	IgM Result Date1	IgM Collection Date2	IgM Received at Lab Date2	IgM Serum Lab ID3	IgM Result2

IgM Result Date2	IgG Collection Date1	IgG Result1	IgG Collection Date2

				Notes
IgG Result2	Culture Collection Date	Culture Result	Confirmed Previous Natural Disease	Vaccinated

Total Number of Doses Received	Number of Doses Received After 1st Birthday	Vaccination Date1	Vaccination Date2	Vaccination Date3	If not vaccinated, what was the reason	Other Reason Not Vaccinated	Notes

Alabama
Colorado
Connecticut
Georgia
Illinois
Indian
Iowa
Kansas
Kentucky
Louisiana
Massachusetts
Montana
Nebraska
New York
New York City
North Dakota
Ohio
Pennsylvania
Philadelphia
Tennessee
Texas
Virginia
Washington

10/25/2018

Instructions for Completing the FY18 ELC Tier II Mumps Spreadsheet

The purpose of the ELC Special Projects for Enhanced Mumps Surveillance is to evaluate current data and collect additional data on cases and outbreaks, to better define the current epidemiology of mumps and to provide insight on future surveillance plans and public health response.

Please complete the ELC Tier II Mumps Spreadsheet for all suspect, probable, and confirmed mumps cases. Fill out the cover sheet tab, updating the total number of reported cases since August 1, 2018, each quarterly reporting period. Keep a running list of cases since August 1, 2018, adding cases for each new reporting period to the previous list and submitting the entire list every reporting period. Please complete as much information as possible for each case.

There are two spreadsheet options available to use:

- Mumps Spreadsheet_ELC Tier2_FY18: No drop downs, ability to copy and paste into the spreadsheet.
- Mumps Spreadsheet_ELC Tier2_FY18_w_dropdowns: Has set variables to choose from for most fields.

Jurisdictions should select the spreadsheet that best suits the availability of their data. Only one version should be completed for each reporting period.

Reports should be submitted to Adria Lee via email: xda5@cdc.gov

- Data from Aug 2018–Dec 2018 (1st and 2nd quarter combined) should be submitted by **Jan 18th, 2019**
- Data from Aug 2018–Mar 2019 should be submitted by **April 19th, 2019**
- Data from Aug 2018–June 2019 should be submitted by **July 19th, 2019**

Cover Sheet

Site Reporting: Select jurisdiction from drop down menu.

Name of Person Reporting: Name of person completing spreadsheet.

Phone: Phone number of person completing spreadsheet.

Email: Email of person completing spreadsheet.

Date Submitted: Date that the report is being submitted.

Year of Report: The year of the report.

Total Number of Outbreaks: Enter the cumulative number of outbreaks identified through the current submission of the report.

Total Number of Cases: Enter the total number of confirmed, probable, suspect and non-cases reported throughout the current submission of the report, if available.

Case Spreadsheet

Case ID: Unique ID number for case used by your jurisdiction.

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NNDSS ID: NNDSS ID number. Leave blank if unknown.

Case Status: Confirmed/Probable/Suspect.

County: Patient's county of residence.

Zip Code: Patient's zip code of residence.

Date of Birth (DOB): Date of birth (preferred over age if known).

Age: Case patient's age at time of disease onset. Leave blank if unknown.

Ethnicity: Hispanic/Not Hispanic/Unknown.

Race: Native American/Alaskan Native, Asian/Pacific Islander, African American, White, Other, or Unknown.

Sex: Male/Female/Unknown.

Occupation: Case patient's occupation. Leave blank if unknown.

Attend Daycare or School: Daycare/School/Other, variable to indicate if the case patient attends school or daycare or "other" type of institutional setting.

Other Institutional Setting: If "other" type of institutional setting is selected, describe further in this column.

Outbreak Related: Yes/No/Unknown, a case is outbreak related if ≥3 confirmed cases of mumps are clustered in time and space.

Outbreak ID: Unique ID number for the related outbreak used by your jurisdiction.

Import Status: Out of Country/Out of State/In State/Unknown.

First symptom reported: Parotitis/Fever/Headache/Jaw Pain/Loss of Appetite/Muscle Pain/Parotitis/Other Salivary Gland Swelling/Tiredness, list the first symptom(s) of illness reported by the patient, if available. If more than one symptom reported, list all separated by a comma (e.g., Parotitis, Fever, Muscle Pain). If first symptom included parotitis, also fill in parotitis fields. Leave blank if unknown.

Onset date of first symptom reported: The onset date of first symptom reported. If first symptom included parotitis, also fill in parotitis fields.

Parotitis or other salivary gland swelling: Yes, unilateral/Yes, bilateral/Yes, unknown severity/No parotitis/Unknown, variable to indicate if the case patient had parotitis.

Parotitis Onset Date: The onset date of parotitis. Leave blank if unknown.

Parotitis End Date: The end date of parotitis. Leave blank if unknown.

Duration of Parotitis: Number of day(s) patient had parotitis. Only include numbers in the response (e.g., do not include "days" or ">2"). Leave blank if unknown.

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Clinical Notes: Include any additional information regarding the case patient's symptoms or complications in this column.

Meningitis: Yes/No/Unknown, variable to indicate if the case patient had meningitis.

Meningitis Onset Date: The onset date of meningitis. Leave blank if unknown.

Encephalitis: Yes/No/Unknown, variable to indicate if the case patient had encephalitis.

Encephalitis Onset Date: The onset date of encephalitis. Leave blank if unknown.

Hearing Loss: Yes, unilateral/Yes, bilateral/Yes, unknown severity/No parotitis/Unknown, variable to indicate if the case patient had hearing loss.

Hearing Loss Onset Date: The onset date of hearing loss. Leave blank if unknown.

Orchitis: Yes/No/Unknown/NA, variable to indicate if the case patient had orchitis. Select N/A if case patient is female.

Orchitis Onset Date: The onset date of orchitis. Leave blank if unknown.

Oophoritis: Yes/No/Unknown/NA, variable to indicate if the patient had oophoritis or pelvic discomfort. Select N/A if case patient is male.

Oophoritis Onset Date: The onset date of oophoritis. Leave blank if unknown.

Mastitis: Yes/No/Unknown, variable to indicate if the patient had mastitis.

Mastitis Onset Date: The onset date of mastitis. Leave blank if unknown.

Pancreatitis: Yes/No/Unknown, variable to indicate if the patient had pancreatitis.

Pancreatitis Onset Date: The onset date of meningitis. Leave blank if unknown.

Death: Yes/No/Unknown, variable to indicate if the case patient died from mumps.

Hospitalized: Yes/No/Unknown, variable to indicate if the case patient was hospitalized.

Days Hospitalized: the number of days the case patient hospitalized. Leave blank if unknown.

Date Reported to Health Department: Date that the case was first reported to a health department. Leave blank if unknown.

Transmission Setting: Indicate where the case patient acquired mumps: day care, school, doctor's office, hospital ward, hospital ER, hospital outpatient clinic, home, work, unknown, college, military, correctional facility, church, international travel, or other setting.

Other Transmission Setting: If "other" transmission setting is selected, describe further in this column.

Outbreak Name: Record the name of the outbreak that the case is a part of.

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Source of Exposure: If the source was out of USA, enter the country name. If the source was out-of-state, enter the state name. If source was an in-state case, enter the state ID. Leave blank if unknown.

Epi-linked to Another Confirmed or Probable Case: Yes/No/Unknown, variable to indicate if the case patient was epidemiologically linked to another confirmed or probable case.

Travel during incubation period (25 days before onset): Yes/No/Unknown, variable to indicate if the case patient traveled during the 25 days before parotitis onset.

Travel Destinations: Record the travel destinations outside of their area of residence in this column. Leave blank if unknown.

Congregate Living Setting: Indicate if the case patient resides in any of the following: barracks, corrections facility, long term care facility, dormitory, boarding school, camp, shelter, or other congregate living setting.

Other Congregate Living Setting: If "other" congregate living setting is selected, describe further in this column.

Testing Laboratory Type: State or Local Public Health Lab/VPD Reference Center/CDC/Commercial Lab/Other, list the type of laboratory that performed diagnostic testing, if testing was completed at multiple laboratories, also include the name of the diagnostic test that each laboratory performed [Ex. Type Lab 1 (Diagnostic Test Name); Type Lab 2 (Diagnostic Test Name)].

Testing Laboratory Name: List the name of the laboratory that performed diagnostic testing. If testing was completed at multiple laboratories, also include the name of the diagnostic test that each laboratory performed [Ex. Lab 1 (Diagnostic Test Name); Lab 2 (Diagnostic Test Name)].

PCR Specimen Type (1-2): Buccal/Oral/Urine/CSF, if PCR was performed, indicate whether a buccal, oral swab, urine, CSF specimen was tested.

PCR Specimen Lab ID (1-2): Unique lab ID number for the patient's PCR specimen used by your jurisdiction.

PCR Collection Date (1-2): PCR specimen collection date. Leave blank if unknown.

PCR Received at Lab Date (1-2): Date the PCR specimen was received at the lab. Leave blank if unknown.

PCR Result (1-2): Positive/Negative/Indeterminate/Pending/Not Done/Unknown. **Be sure to include negative results in addition to positive results.*

PCR Result Date (1-2): Date PCR results reported to public health laboratory (or if performed at the public health laboratory, then date result was determined). Leave blank if unknown.

Genotype: A/B/C/D/F/G/H/I/J/K/L/N/Pending/Not Done/Unknown. If genotyping was performed, indicate the genotype: A, B, C, D, F, G, H, I J, K, L, or N. Only include the letter of the genotype (i.e. do not include "genotype" in the response".

Sequence ID: Unique ID assigned by VPD-RC or CDC (or other lab that performed sequencing) to the patient specimen's sequence results (WHO naming format- mumps virus (MuV) and specimen (s) or isolate (i)/state. country/epi week.year/replicate, for example MuVs/NewYork.USA/35.16/5).

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IgM Collection Date (1-2): IgM specimen collection date. Leave blank if unknown.

IgM Received at Lab Date (1-2): Date the serum specimen for IgM was received at the lab. Leave blank if unknown.

IgM Serum Lab ID (1-2): Unique lab ID number used by your jurisdiction for the patient's serum IgM specimen.

IgM Result (1-2): Positive/Negative/Indeterminate/Pending/Not Done/Unknown.

IgM Result Date (1-2): Date IgM results reported to public health laboratory (or if performed at the public health laboratory, then date result was determined). Leave blank if unknown.

IgG Collection Date: IgG specimen collection date. Leave blank if unknown.

IgG Result: Positive/Negative/Indeterminate/Pending/Not Done/Unknown.

Culture Collection Date: Culture specimen collection date. Leave blank if unknown.

Culture Result: Positive/Negative/Indeterminate/Pending/Not Done/Unknown.

Confirmed Previous Natural Disease: Yes/No/Unknown, variable to indicate if case patient has a documented history of natural mumps disease.

Vaccinated: Yes/No/Unknown, variable to indicate if case patient has previously received mumps-containing vaccine.

Total Number of Doses Received: The total number of doses received in their life time (before and after the case-patient's 1st birthday). Leave blank if unknown.

Number of Doses Received After 1st Birthday: The total number of doses received after the case-patient's 1st birthday. Leave blank if unknown.

Vaccination Date (1-3): The mumps vaccination date(s). If month and year known, but day unknown, use 15th of month for day. Leave blank if entire date is unknown.

If Not Vaccinated, What Was the Reason: If case patient was not vaccinated, please indicate the reason: religious exemption, medical contraindication, philosophical objection, laboratory evidence of previous disease, MD diagnosis of previous disease, under age for vaccination, parental refusal, other, or unknown.

Other Reason Not Vaccinated: If "other" reason is selected for why the case patient was not vaccinated, describe in this column.

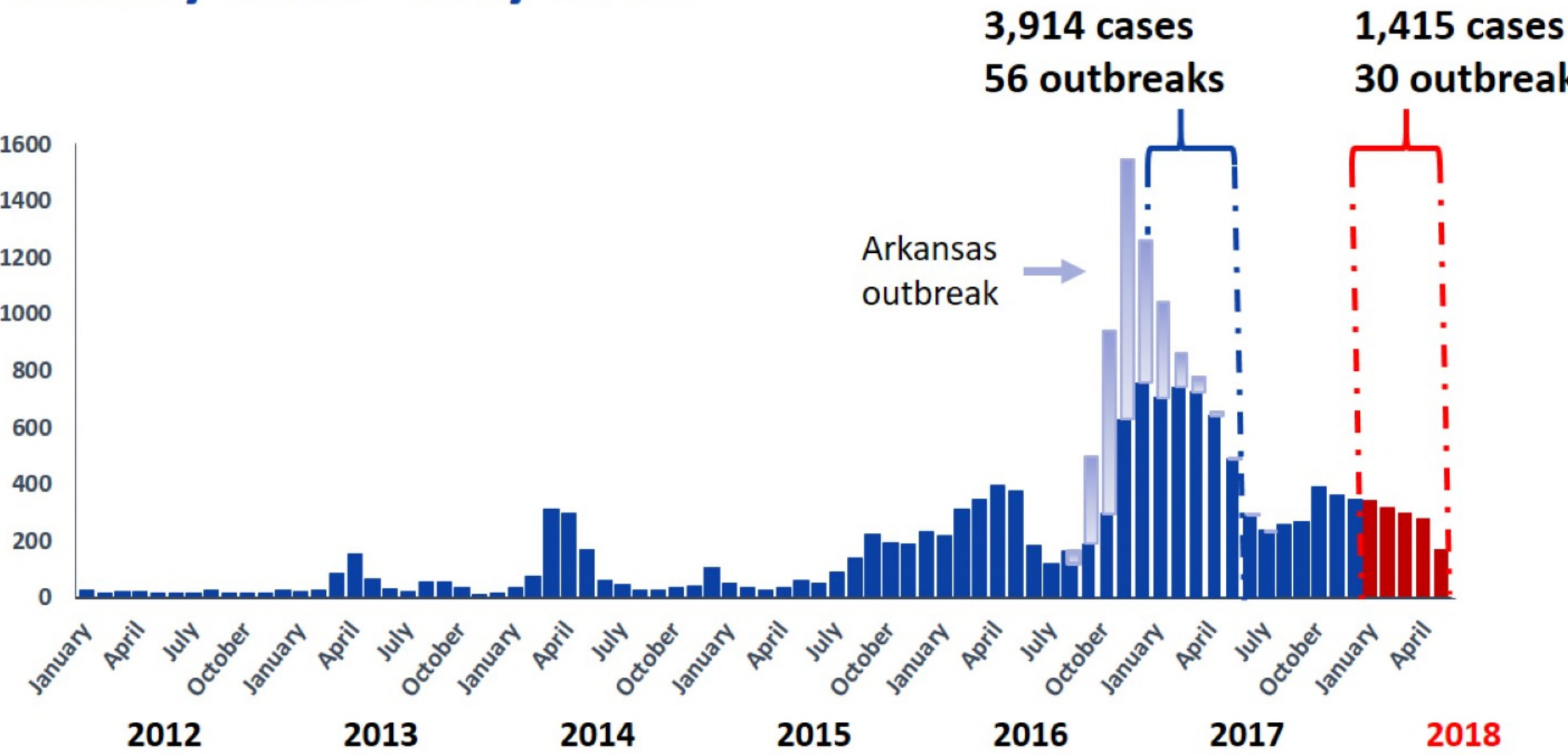
Notes: Include any additional information regarding this case in this column.

ELC Tier II – Mumps FY18 Kick Off Call

Division of Viral Diseases

October 19, 2018

Reported Mumps Cases by Month — United States, January 2012–May 2018



National Notifiable Diseases Surveillance System (passive surveillance); 2017 and 2018 data are preliminary and subject to change

ELC FY17

- Number of sites: 9
- First time able to capture detailed outbreak data that showed median cases per outbreak and complications
- Compared data to NNDSS to identify transmission errors
- Informed national data call for aggregate outbreak data
  - 150 outbreaks (>6,000 cases) across 39 (of 52) jurisdictions
  - Used for ACIP deliberations on use of a 3rd dose of MMR (burden)
  - Support for more mumps research
- Other projects (pending final data merge)
  - Pediatric mumps cases for provider awareness
  - Laboratory testing

New CDC Mumps Outbreak Guidance and Resources

- Guidance on use a 3rd dose of MMR vaccine during mumps outbreaks
  - https://www.cdc.gov/mumps/health-departments/MMR3.html
- Guidance for optimizing mumps testing
  - https://www.cdc.gov/mumps/health-departments/optimize-testing.html
  - CDC and APHL hosted a webinar on this topic and use of the VPD Laboratory Reference Centers on October 10th, recording will be available.
- Instructional video for providers on proper buccal swab collection
  - https://www.youtube.com/watch?v=ThvoJBjsUvQ
- Mumps Outbreak Communication Toolkit
  - Send request to ncirddvdmmrhp@cdc.gov
- Provider job-aid for mumps testing
  - https://www.cdc.gov/mumps/health-departments/provider-jobaid
- Please send us your input, suggestions, or **other outbreak material** you would like to share with others to ncirddvdmmrhp@cdc.gov

Suspect MUMPS?

Wait! This patient might not need to be tested if they are linked to another mumps patient or outbreak. Refer to outbreak guidance from Health Department Name

Does patient have parotitis or other salivary gland swelling?

YES

Has it been ≤3 days since symptom onset?

- **YES** — Collect a buccal specimen for RT-qPCR
- **NO** — Collect a buccal specimen for RT-qPCR and serum specimen for IgM

NO

Does the patient have:
- orchitis/oophoritis,
- mastitis,
- pancreatitis,
- hearing loss,
- meningitis, or
- encephalitis?

- **YES** — Collect a buccal and urine specimen for RT-qPCR and serum specimen for IgM
- **NO** — Is patient part of a group at increased risk for mumps as defined by public health authorities? (If applicable include description of groups at increased risk here)
  - **YES** — Give third dose of MMR
  - **NO** — Make sure patient is up to date on MMR and educate on signs and symptoms

Is testing available at your facility?

- **YES** — Contact or Shipping Instructions
- **NO** — Contact or Shipping Instructions

Health Department Contact Information

CS306624-A

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

ELC FY18 tier II mumps

- Number of sites: 23
- Review mumps data (e.g., vaccination history, symptoms and complications, laboratory information, transmission and source data), characterize high risk groups, and further identify risk factors for infection and modes of transmission (1b)
- Collect clinical data (e.g., symptoms, complications, incubation period), ensure lab testing, and support inclusion of lab results in case notifications to CDC (1d)
- Routinely provide information on outbreak-associated cases to CDC and establish mumps outbreak resources (1a, 1b, 1c)

Logistics

- Quarterly data submissions (January (includes August–December), April, July)
- Create a mumps distribution list
  - To create a community to troubleshoot mumps data collection and outbreak response issues
  - Communicate ELC mumps-specific information and updates
- Would it be useful/feasible to use redcap to submit ELC data?
  - CDC creates a platform for states to upload their data
  - Jurisdictions would need to already have red-cap access
- Will ask for additional feedback via email on topics addressed today

Public health questions for ELC FY18 mumps data

Mumps case definition

Public health issue:

- Mumps confirmed and probable case definitions require that a patient have parotitis or other salivary gland swelling lasting **≥2 days**
- Health departments have observed patients with <2 days of parotitis that are RT-PCR positive
- Consistent with vaccinated patients having less severe mumps symptoms and complications

ELC data request/use:

- Send CDC information on suspect cases, in addition to confirmed and probable cases (parotitis onset and end dates, duration (days), symptoms, laboratory results, epi link)
- Data will be used to inform possible change in CSTE mumps case definitions

Mumps ICD10 codes

Public health issue:

- Potential underreporting or undiagnosed mumps cases by clinicians
- Data from a large outbreak suggests <10% of reported cases include ICD9/10 code for mumps (1/3 use sialadenitis, others used localized swelling or jaw pain)

ELC data request/use:

- Send CDC ICD10 codes for all cases (including suspect)
- ICD10 codes will be applied to MarketScan (large patient claims database) to estimate incidence of clinician diagnosed mumps and compared with national surveillance data

3rd MMR dose vaccinees

Public health issue:

- In October 2017, ACIP recommended use of a 3rd dose during outbreaks
- Cases among 3rd dose vaccinees reported
- Duration of protection of a 3rd dose unknown

ELC data request/use:

- Send CDC complete information of cases that received 3 doses of MMR, specifically date of vaccination, date of symptom onset, symptoms
- Data will be used to describe cases with 3 doses of MMR (e.g. # cases of vaccinated <28 days before onset)
- Though missing denominator of # vaccinated, will still add to evidence body as use of a third dose continues to be evaluated

Timing of laboratory testing

Public health issue:

- Survey of health departments showed one of the main challenges for mumps outbreaks is testing (provider training, logistics)
- Delays in specimen testing could contribute to poor quality specimens and false negatives
- Incorrect specimen collection burdens lab resources

ELC data request/use:

- Send CDC complete information on date of parotitis onset, specimens collected (buccal, serum, urine), specimen testing dates (collected, received at lab, result) lab results, and type of lab where tested (PHL, VPD-RC, CDC, commercial)
- Data will be used to describe mumps testing practices, evaluate timing vs test result, and compare with recommended testing guidance
- Results will be used to inform provider education and laboratory resources

Molecular sequencing

Public health issue:

- While most mumps in the US is genotype G (Sheffield), some health departments have successfully used sequencing to differentiate outbreaks and cases to inform response measures
- VPD RCs and CDC can provide genotyping/sequencing for jurisdictions
- WGS platform established at CDC, but still need to develop mumps sequencing database with epidemiologic data

Molecular sequencing

ELC data request/use:

- Establish genetic database of mumps sequences as an outbreak resource
- Send PCR+ specimens **with complete case ID, lab ID, and NNDSS ID** to VPD-RC or CDC
- Include lab IDs when sending case data, such that cases can be linked to specimens
- Prioritize sending samples from the following cases:
  - Sporadic cases
  - Cases from new outbreaks
  - Cases from outbreaks that spread to new settings (e.g., spread from university to surrounding community)
  - Patients with mumps complications
  - Patients who traveled internationally during their likely incubation period (12-25 days prior to onset)
  - Patients with recurrent parotitis (submit samples from both occurrences when possible)
  - Patient who received ≥3 doses of MMR more than 28 days before symptom onset
- Please contact CDC mumps team to request sequence trees for specific outbreaks/cases

Key variables for mumps cases

- Case ID, Lab ID, DASH ID, NNDSS ID
- Date of onset of symptoms
- Date of onset of parotitis or other salivary gland swelling
- Duration of parotitis (days)
- ICD10 codes reported
- Date(s) of vaccination
- Complications
- Specimens collected and laboratory results

- Specific issues with collection of these data elements?
- Possible to create uniform and useful categories for setting?

Other mumps projects or uses of ELC data?

- Are sites already working on related projects (or other projects)?
- Are sites working on projects that could be supported by ELC data?
- Are there projects that sites would like to collaborate with CDC on (proposed here or others)?

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Major Article

Forming a successful public health collaborative: A qualitative study

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Key Words:
Social dilemma
Multidrug-resistant organisms
Partnerships

Background: Coordinated approaches are needed to optimally control the spread of resistant organisms across facilities that share patients. Our goal was to understand social tensions that may inhibit public health–led community partnerships and to identify factors for success.

Methods: A collaborative to control transmission of multidrug-resistant organisms (MDROs) was formed in Utah following a regional outbreak, with members from public health, hospitals, laboratories, and transport services. We conducted and qualitatively analyzed 3 focus groups among collaborative stakeholders to discuss their experiences.

Results: Via 3 focus groups and additional interviews, we found the collaborative made institutional tensions between stakeholders explicit. We identified 4 factors that facilitated the ability to overcome institutional tensions: public health leadership to establish a safe space, creation of cross-institutional group identity with mutual respect and support, standardized communication, and group cohesiveness through shared mental models of interdependencies.

Discussion: Stakeholders' concerns regarding being blamed for MDRO transmission versus contributing to shared health care community MDRO control efforts resembled a "prisoner's dilemma." Four social components mitigated tensions and facilitated cooperation in this public health–led collaborative.

Conclusions: This study identified strategies that public health-led coordinated approaches can use to facilitate cooperation.

Antibiotic resistance is a significant and growing public health issue. Multidrug-resistant organisms (MDROs) can travel widely across the health care continuum as patients move from 1 health care setting to another.[1] Regional coordinated approaches may be the best method for preventing the spread of resistant organisms across facilities.[2] Although most collaboratives focus on reducing infections and championing best practices *within* facilities, public health–led collaboratives to prevent regional MDRO transmission must engage and implement best practices *across* facilities.

Studies of state- and country-led collaboratives to prevent pathogen transmission have been published, and their methods have varied.[3-5] Israel successfully controlled the spread of carbapenem-resistant Enterobacteriaceae (CRE) with a national "top-down" approach mandating robust infection control and surveillance.[4,5] The spread of CRE across Indiana and Illinois in 2008 was identified through molecular epidemiology and social network analysis.[1] Others have used a modified network analysis to promote coordinated efforts by facilities and public health.[5] Rural settings in South Dakota fostered transparent hospital and public health relationships to curb CRE transmission in 2012 with surveillance, communication, and antimicrobial stewardship.[6]

Despite successes in reducing community MDRO transmission, there has been little focus on the factors that mediate the success of collaborations that include different and competing health care stakeholders. In the context of controlling the transmission of MDROs across health care systems, individual health care facilities face many unique conflicts, from sharing limited resources to potential reputational risks to loss of business from referring facilities. Such tensions between the short-term interests of individual actors and the long-term public

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good—sometimes referred to as "social dilemmas"—require careful institution-building to address.[7,8]

Our objective was to conduct a qualitative study to explore how an effective public health–led collaborative to reduce regional MDRO transmission overcame challenges.

METHODS

The methods are presented here in 3 parts: (1) the context and creation of the Utah Collaborative for Regional MDRO Prevention (hereafter referred to as the Collaborative), (2) the tools developed as part of the Collaborative, and (3) the qualitative methods and procedures for the evaluation.

Context and overview of the Collaborative

In 2009, Utah experienced a multifacility outbreak of carbapenem-resistant *Acinetobacter* (CRA) that highlighted the importance of communicating information about resistant organisms to public health and transfer facilities. Regional transmission of CRA led to the creation of the Collaborative (Fig 1). Prior to this, public health and the wider health care community might only learn about the spread of select MDROs such as CRA via voluntary disclosure by individual facilities, as there was no mandate to report. The goals of the Collaborative were to establish standardized communication regarding the infectious status of shared patients at facility transfer and regional situational awareness of CRE/CRA. In 2012, the Utah Department of Health (UDOH) sought and received funding to compensate facilities—from acute to long-term care—to engage in a multidisciplinary group with public health, transport services, and laboratories for regional MDRO control. This article reports their experience.

Tools developed during the Collaborative

After mandated CRA/CRE reporting was added as a legislative rule in 2013 at the request of infection preventionists,[9] data elements for a transfer form (which can be viewed at http://health.utah.gov/epi/diseases/HAI/resources/Interfacility_Transfer_Form.pdf) were agreed upon to standardize communication. Health care personnel with a role in communicating standardized information regarding infectious status during patient transfer—such as medical transport personnel—were identified. Infection prevention practices that included risk considerations across different institutional care processes were also disseminated. To increase shared awareness and improve detection of aberrations, informatics tools were used to create exposure network graphs that could alert public health officials to potential outbreaks[1] (Fig 2).

Qualitative evaluation of the Collaborative

The experience of participants through the CRA outbreak and the Collaborative experience from 2009-2014 were evaluated using focus groups and semi-structured interviews.

Study design and participants

We conducted 3 focus groups between September-December 2016 with the goal of identifying effective public health and community partnership strategies. Fourteen Collaborative members (out of the original 45 members) agreed to participate and gave informed consent. Participants included state and local public health epidemiologists, infection preventionists, nurses, physicians, administrators, a housekeeping services manager, an emergency medical transport supervisor, a laboratory director, and health–care facility stakeholders from both acute and long-term acute care (LTAC) hospitals. Each focus group was constructed with the goal of maximizing diversity. Follow-up single-subject interviews were conducted by phone using a semi-structured approach (n = 5). These interviews served to extend and validate the results from the focus groups. Institutional review boards approved all procedures. No direct compensation was offered, but participation included a light meal.

Procedures and data collection

Focus groups were facilitated by an experienced investigator and an assistant using the following rules for conducting focus groups: (1) clear statement of purpose and use of a script; (2) minimization of status differences; (3) moderating processes that minimize argument or cross-talk; (4) frequent reminders to participants that their contribution is important; (5) strategies to encourage equal participation, such as "go-arounds"; and (6) periodic summarization of content to confirm contributors' points.[10,11] After an introduction to the group, a conversation to break the ice was held and the purpose of the study explained. A script was developed by the author group and included questions to elicit information about stakeholders' experiences, perceptions, and beliefs regarding the functioning of the Collaborative. Focus groups lasted 75 minutes in total and were recorded and transcribed with identifying information removed.

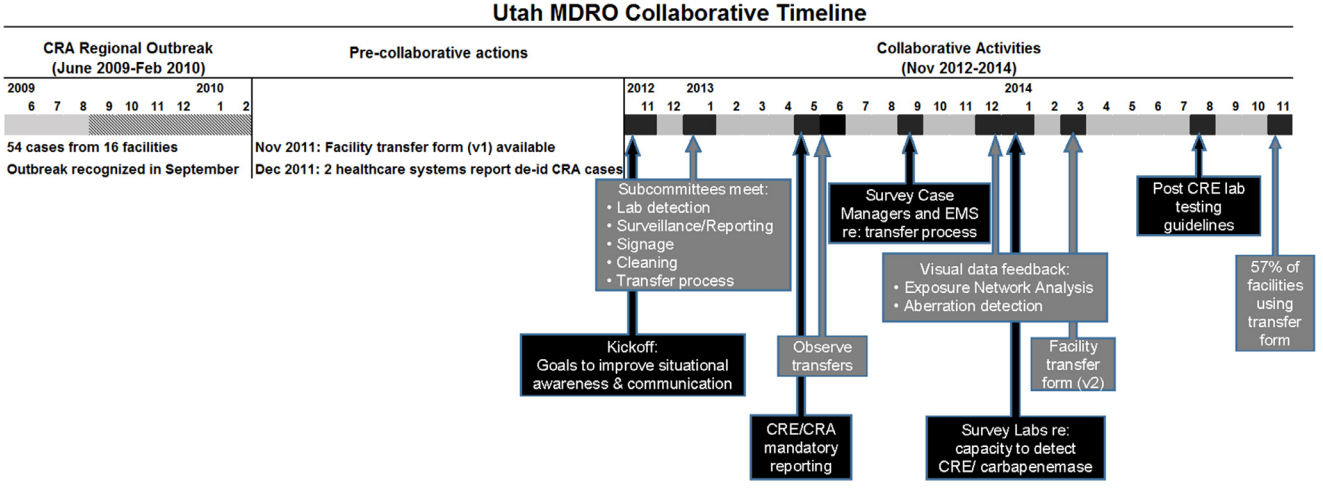
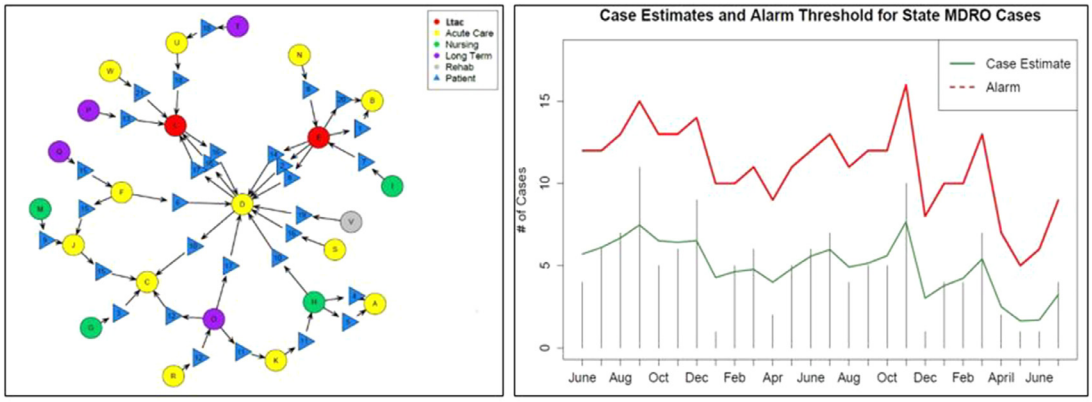


Fig 1. Timeline of the Utah MDRO Collaborative, including the impetus from the initial outbreak. *CRA*, carbapenem-resistant *Acinetobacter*; *CRE*, carbapenem-resistant Enterobacteriaceae; de-id; de-identified; *EMS*, emergency medical services; *MDRO*, multidrug-resistant organism.



Exposure network analysis graph that shows transfers of CRA cases across facilities

Aberration detection models with case estimates and alarm threshold for Utah CRA cases

Fig 2. Data visualization tools created during the Collaborative. *CRA*, carbapenem-resistant *Acinetobacter*; *LTAC*, long-term acute care; *MDRO*, multidrug-resistant organism; *rehab*, rehabilitation.

Data analysis

Qualitative analysis used a modified version of grounded theory with the goal of identifying emergent constructs.[12] Initially, multiple reviewers independently reviewed the text, identifying key concepts using "precodes." The precodes were iteratively discussed across many meetings until agreement was achieved on constructs. The constructs and their associated quotations were again reviewed through discussion to identify emergent themes. Further aggregation and analysis with discussion supported the emergence of salient themes.[13,14]

RESULTS

Five themes from the qualitative analysis are discussed below.

Theme 1: The Collaborative made interinstitutional tensions in regional MDRO coordination explicit

Participants identified 2 forms of tension pertaining to coordinating regional control of MDRO transmission. The first was the tension between the transparency to report infections for the larger public good and the potential risk to the reputation of their own institutions. It was clear that individual health care facilities felt blamed for MDRO outbreaks and had negative financial and reputational consequences. According to 1 LTAC epidemiologist, "The LTAC situation is so challenging and political. They depend on referral and feeder systems, so if [an acute-care facility] stands up and says, 'We don't like you, you're sending us all the patients [with MDRO],' the LTAC will wither away and die because it will choke them … Any of the hospitals know that." In addition, this LTAC epidemiologist went on to say, "Every hospital had their own set of patients with MDROs, and there was transmission going on at some level in their own hospitals. And so, when 3, 4 hospitals send patients to the LTAC, then the LTAC becomes 4X rather than 1X … At that point, people started openly blaming [the LTAC] to be the place where the transmission [took place]."

Second, participation in the Collaborative itself was a source of tension for infection preventionists, as they experienced conflicts juggling their normal duties with the extra Collaborative work. Some felt they were shortchanging their institutions, which led them to question their loyalties, and some resented the encroachment on their personal time. The conflict between allegiance to the facility and contributing to the overall community good was amplified if institution administrators failed to appreciate the additional resources needed for success. According to hospital infection control, "Every time I was involved with the Collaborative, it came at the expense of the hospital and my personal free time . . . That's my time with my family or hobbies, so I'm becoming more protective, and it comes out of years of doing all this extra stuff." In addition, "We haven't, even with all this work and all this history and all this collaboration we've done for many years, it hasn't translated into more help . . . You feel the passion, and then you have to start saying, 'I can't.'"

Theme 2: Public health leadership created a safe space by serving as a trusted broker to the Collaborative members

Although stakeholders shared a common goal of preventing the spread of infections, competition and logistical challenges persisted. Public health helped by reaching out to Collaborative members as a neutral, nonjudgmental partner and trusted broker. Because the health department convened meetings and aggregated data in a nonaccusatory manner, they created a structure for listening to all stakeholders' challenges and requests. As a result, individual facilities became increasingly transparent, with less fear of being "scapegoated." According to 1 LTAC MD, "What helped us [is] the state became sort of an honest broker and a mediator [others agree]—because you know there's competition among the systems . . ." As stated by UDOH, "At the health department, we're sort of a convener that's trying to get everyone to collaborate, so I think we're sort of the glue in a way that tries to put things in a neutral setting . . . And to sort of smooth out that competitive aspect—in other words to get people to work together for the common good. We see that as our role."

Theme 3: A cross-institutional group identity emerged with high levels of mutual empathy and support

Participants from different health care roles and systems reported a camaraderie and sense of "groupiness," with less finger-pointing and more transparency and empathy. Members remarked that ongoing face-to-face meetings were important for maintaining a personal connection. According to hospital infection control, "One of the most important things that the Collaborative did was it really put everybody on the same team . . . It's a very blameless culture . . . It's a place to get help, not to be worried about what others know about what's going on in your facility." In addition, "We want to help each other . . . [Acute care facility E] tried to have some relationships with some long-term care facilities, but … [the long-term care] staff was

changing so fast, lots of times they didn't have infection control at all." As stated by the local health department, "From my perspective, the facilities, seeing the challenges they run into has been really helpful for me because I'm not working in those types of settings and I don't see those types of challenges. I think it's been helpful to develop that bond."

A sense of mutual responsibility was a necessary component of "groupiness," and led infection preventionists from large health care systems to feel it was their duty to assist smaller rural and long-term care facilities.

Theme 4: Standardizing communication was challenging but necessary for drawing attention to the infectious status of patients as they moved across health care facilities

Members reported breakdowns in communicating infectious status of patients transferred across sites. Participants noted key information was often not available, especially if access to the sending facility's medical record system was limited. Staff and providers did not always recognize the key data to share, and there were testing delays or differences in defining resistant organisms. Facilities sharing patients often had different electronic record systems with obstacles to communication, and printed information got lost during a transfer. According to hospital infection control, "If you are receiving a patient from maybe a skilled facility that doesn't have electronic documentation . . . you're not given the whole back picture." In addition, according to the local health department, "It may be several days before we're notified of a patient's actual culture with resistance results . . . then ensuring that facilities are notified and are aware and are taking precautions."

Members standardized information flow by developing a transfer form and by encouraging transporters to ask for and pass on infection data. The form reinforced the information important to exchange, such as MDRO status, symptoms, and precautions. Members noted that information exchange posed a differential burden across institutions, and although the form was promoted, its use was not mandated, and implementation varied across facilities. As stated by UDOH, "Every facility is sort of different in the way that they do things, and it's hard to add one more form to that and get people to use it regularly. I mean it's not that it's a difficult form, but to get all the people to use it the right way . . . It's complicated . . . We have to figure out other ways to notify facilities of these people that's [*sic*] easier for workflow."

Theme 5: Group cohesiveness required a shared mental model of stakeholders' mutual dependencies

At the outset, even though it was recognized that cooperation was necessary and beneficial for all, participants acknowledged they sometimes had a "hunkered down" attitude. Stakeholders admitted they blamed—and even feared—other facilities for the resistance problem. This changed when the state health department created exposure network diagrams illustrating the multiple facility connections with regional transmission of resistant bacteria (Fig 1). These graphics gave stakeholders a visual "big picture" of the extent to which MDRO patients were shared across all types of facilities. Participants recalled their "eureka" moment when they realized their previous approach to preventing infections was so limited. According to hospital infection control, "A lot of people were actually surprised. I was, when I looked at the diagram, of the number of interfacility transfers that went from [facility D] to the care center . . . to [facility H] back to the care center . . . I don't think we realized the extent of the movement because we always think, well, certain care centers only accepted patients from certain hospitals, when, in fact, it was all over the place." In addition, "The openness of flow of information takes the stigma away from facilities struggling with an issue; they are free to ask for help and guidance."

DISCUSSION

Our study identified the complexity of how collaboratives develop and what mechanisms may be important when creating a regional public health–led collaborative. First, stakeholders confirmed that they faced a social dilemma regarding information-sharing about their facility's role in MDRO outbreaks. We found that interfacility support, formation of a group identity, standardizing methods to communicate, shared mental models, and leadership by an impartial trusted broker were key to mitigating interinstitutional tensions and creating a successful public health–led collaborative.

Prior to the Collaborative, the regional community of health care systems resembled a complex version of the "prisoner's dilemma."[15] Mutual cooperation via information sharing would have facilitated optimal regional MDRO control, but transparency on the part of individual actors carried no guarantee of reciprocity from others in the health care system and came with reputational and financial risks. Mutual noncooperation constituted a "middle path" that avoided the consequences of being identified as a source of MDRO transmission while also forgoing the benefits of information-sharing.

The Utah Collaborative's experiences are congruent with classic arguments in the social dilemma literature.[2,16,17] Some research in this area has found that the most effective and cooperative institution-building emerges from the bottom up rather than the top down.[16-18] This matches the Collaborative participants' expressed attitudes of collegiality and desire to work together to limit infection transmission, which only increased over time as members got to personally know and trust each other. Significantly, participants still found value in the Collaborative despite an increase in workload without an appropriate corresponding increase in resources from their institutions or external funding for MDRO-related activities. In addition, the literature also suggests that punishment for violating norms can improve collaboration.[19] Mandatory reporting of health care–associated infections not only requires that institutions report to avoid financial and compliance penalties but may also motivate participation in collaboratives to improve high infection rates.

Communication is crucial for fostering trust and for ensuring that collaboratives operate effectively.[7,20,21] Knowledge sharing is key to the success of collaboratives in general. The incentive to share information varies as a function of social motivation (pro-self vs pro-community).[22] Pro-community social motivation is enhanced through accountability and an increased emphasis on shared outcomes. The work of the Collaborative evolved to emphasize accountability through transparent mandatory reporting and by showing all facility stakeholders the extensive movement of patients across systems, as illustrated in the exposure network graphs. The result was an increased awareness of shared outcomes. This effect of shared information is also supported by research in the area of motivated information process in groups, which identifies 2 categories of group motivation that are present in every group interaction: social interaction and knowledge sharing.[23] Effective group processing involves addressing both social motivation (social group processing and bonding) and information needs to improve group decision-making.[23,24]

"Meta-information" regarding what others know, who is responsible, and where resources are delivered is a vital component of group knowledge. Such knowledge allows members to minimize effort: they do not have to know everything themselves, but instead simply remember who knows how to perform a specific task.[25] This kind of knowledge emerges as groups

become more cohesive and mature, a process evident in the development of the Utah Collaborative.

Public health leadership was critical to the success of the Collaborative. The willingness of public health to learn about and experience challenges faced by health care personnel encouraged transparency from community partners. In addition to acquiring funding, important functions performed by public health included sharing of MDRO information across facilities in a nonadversarial manner, providing targeted education on feasible infection prevention practices in the appropriate health care setting, and creating social network graphics to visually describe collective MDRO transmission. In these activities, the health department served as an important knowledge source and a neutral, supportive facilitator.

CONCLUSIONS

The success of health care system–wide MDRO management can be threatened by the variety of social dilemmas faced by individual facilities, each of which must weigh the benefits of cooperation against the reputational and financial costs of full transparency about outbreaks. Enhancing participants' social motivation and knowledge sharing needs is important for resolving these social tensions. Public health agencies play a critical role in providing a safe space for community stakeholders to collaborate and in creating strong information environments (eg, provision of data to stakeholders). Other crucial components that should be considered when establishing a public health–led collaborative include acting to create a group identity, standardizing communication strategies, and encouraging group cohesiveness with shared mental models of stakeholder interdependencies.

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Arkansas Department of Health (ADH) Arthritis Program Evaluation and Measurement Plan, 2018-2023 (DP18-1803)

Arkansas Department of Health

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Date: 11/26/2018

Introduction

Behavioral Risk Factor Surveillance System (BRFSS) 2015 data from the Centers for Disease Control and Prevention (CDC) show that Arkansas ranks 4th among 15 states with the highest arthritis prevalence. Arkansas's arthritis prevalence is 29.7% (672,000 persons) compared to a national arthritis prevalence of 22.7%. This higher-than-national prevalence in Arkansas is attributable primarily to the very high and increasing prevalence of comorbid conditions among Arkansans, primarily obesity, heart disease, strokes, and diabetes. Arthritis prevalence among Arkansas adults with comorbid conditions, such as obesity is 37.7%; for those with coronary heart disease it is 64.6%, and for those with diabetes it is 58.9%. Arkansas adults ≥65 years of age are most affected at 52.0%, followed by those aged 45-64 years at 39.0%, and the remainder are between 18-44 years of age. Arthritis-attributable activity limitation is prevalent by 57.0% among Arkansans with arthritis. Work-limitation is seen among 55.2% of Arkansas adults with arthritis, social participation restriction is seen among 27.3%, and severe joint pain is experienced by 36.3% of Arkansans with arthritis. Data show that 32.3% of Arkansas adults report ≥14 physically unhealthy days, 21.2% report ≥14 mentally unhealthy days, and 24.4% of adult Arkansans report ≥14 limited activity days due to poor physical or mental health.

Arkansas's hospitalization costs for 11,117 adults with all forms of arthritis totaled to $125 million in 2014, with 86% of these costs attributable to osteoarthritis alone. The impact of arthritis on Arkansas's in-hospital healthcare expenditure was seen as an increase of $27 million in hospitalization costs for adult arthritis between 2006 and 2014.

In 2018, the Arkansas Department of Health (ADH) applied for and was awarded CDC's State Public Health Approaches to Addressing Arthritis (DP18-1803) funding award to reduce arthritis-related adverse health outcomes in Arkansas.

Evaluation Purpose

This evaluation purposes to determine the effectiveness of program activities at reaching proposed targets and outcomes of the Arthritis Program's four main strategies, provide recommendations to improve program outcomes, and disseminate evaluation findings for increased stakeholder collaboration to achieve program outcomes. The ADH Arthritis program is four months old at the time of this writing and work is currently in the planning and early implementation phase.

Strategy 1: Disseminate Arthritis-Appropriate Evidence-Based Interventions (AAEBI) and leverage other Self-Management Interventions. This evaluation will identify reach for dissemination and utilization of AAEBIs namely group-led and self-directed Walk With Ease (WWE) and Diabetes Prevention Program (DPP) in Arkansas.

Strategy 2: Counsel and refer patients to increase physical activity, including participation in AAEBIs and walking. Evaluation will assess bi-directional referral processes to group-led WWE and DPPs and the impact on physical activity among patients with arthritis.

Strategy 3: Promote Walking. Evaluation will track reach for people participating in WWE, DPP, and other walking programs.

Strategy 4: Raise awareness about arthritis burden and management. This evaluation will assess reach and processes for raising awareness among the general public, employees, and providers.

Overall, this evaluation will provide information directing the Arthritis Program in improving the delivery of program activities, justify program efforts and needs, and inform stakeholders on the efficacy of interventions, and suggest changes as appropriate. This evaluation will serve as a decision-making tool for program leaders.

Evaluation Team

Table 1. Roles and Responsibilities of the Evaluation Team

Individual	Evaluation Role/Responsibilities
ADH Arthritis Project Manager	• Identifies goals and objectives • Coordinates data collection and communication with partners • Discusses evaluation findings with evaluator • Oversees implementation and changes based on evaluation findings • Disseminates evaluation findings to CDC and stakeholders
ADH Arthritis Program Coordinator	• Assists Project Manager with data collection from partners • Assists with program change based on evaluation findings
ADH Chronic Disease Chief Epidemiologist/Evaluator	• Evaluation Lead • Develops and revises logic models • Reviews data submitted by partners and makes recommendations • Analyzes data and interprets findings • Evaluates program and offers recommendations

Process of Evaluation Planning

A. Stakeholder Engagement

The Arthritis Program will engage multiple partners in evaluation processes as detailed below.

Table 2. Stakeholder Assessment and Engagement Plan

Stakeholders	Interest/Want to Know	Role in Evaluation	Method of Engagement
Persons involved in program activities			
Arthritis Program staff, CDPC Branch Chief	• Effectiveness of Arthritis Program activities • WWE participation and expansion • Program reach and progress	• Define program and context • Identify data sources • Collect data • Interpret findings • Disseminate findings	• Meetings • Roles in evaluation (Table 1)
Partners: WWE sites	• Delivery of WWE among patients with arthritis	• Collect data and send to ADH • Key informants	• Meetings • Conference calls • Interviews
Persons served by the ADH Arthritis Program			
WWE participants	• Utilization of WWE programs • Participant benefits	• Provide success stories • Value assessment	• Interviews
Healthcare providers	• Utilization of WWE among referred clients • Feedback on improved well-being of their patients	• WWE referral and feedback processes	• Surveys
Intended users of evaluation findings			
ADH	• Increased access to WWE programs for patients with arthritis • Closure of referral loop (bi-directional referral) • Improved outcomes for WWE participants • Strengths and weaknesses of program	• Evaluation implementation • Interpret and review findings • Drive program decisions based on findings	• Internal and external meetings
CDC	• ADH Arthritis Program progress • Arthritis program-related performance and outcomes	• Provide guidance and technical assistance • Review evaluation progress and provide feedback • Review evaluation documents and provide feedback	• Conference calls • Meetings

B. Program Description

The ADH Arthritis Program began four months ago in July 2018 and has several components aimed at reducing arthritis-related joint pain and inactivity through WWE and other physical activity programs.

Strategy 1: The program is currently working to initiate dissemination of group-led and self-directed among WWE Arkansas state employees (Arkansas Healthy Employee Lifestyle Program [AHELP], Community Healthy Employee Lifestyle Program [CHELP]), Blue Cross Blue Shield (BCBS), Area Agency on Aging (AAA) participants, Mercy Health System, Arkansas Disability and Health Program (ADHP), Arkansas Minority Health Commission (AMHC), University of Arkansas for Medical Sciences (UAMS) Centers for Aging (COA), UAMS Department of Physical Therapy (DPT), and Fayetteville Outpatient Therapy Clinic patients and ensure sufficient capacity to continuously and sustainably deliver WWE programs to this population and expanded populations.

Strategy 2: The program is currently working with WWE delivery sites, healthcare systems, and providers to plan approaches for counseling and referral of patients to increase physical activity (PA), including participation in group-led and self-directed WWE, and other walking initiatives.

Strategy 3: The program is currently implementing activities to promote walking through WWE, Blue and You Fitness Challenge, CapitalG0! Challenge, and Walk Across Arkansas. An assessment is being done of walking initiatives for infrastructure and potential for sustainability to facilitate routine PA, and ensure initiatives address unique needs and barriers of adults with arthritis and increase walking among adults with arthritis.

Strategy 4: The program is currently working on media outlets and other methods to promote awareness of arthritis burden and walking programs.

Arthritis Program outcomes are:

1) Increased participation in arthritis-appropriate evidence-based interventions (AAEBIs)
2) Reduced, or no increased inactivity among patients with arthritis
3) Increase PA counseling about arthritis management by health professionals
4) Reduced, or no increase in severe joint pain
5) Improved health status among patients with arthritis

The ADH Arthritis Program is developing comprehensive partnerships with the following organizations/entities to assist in achieving program activities and outcomes. These include:

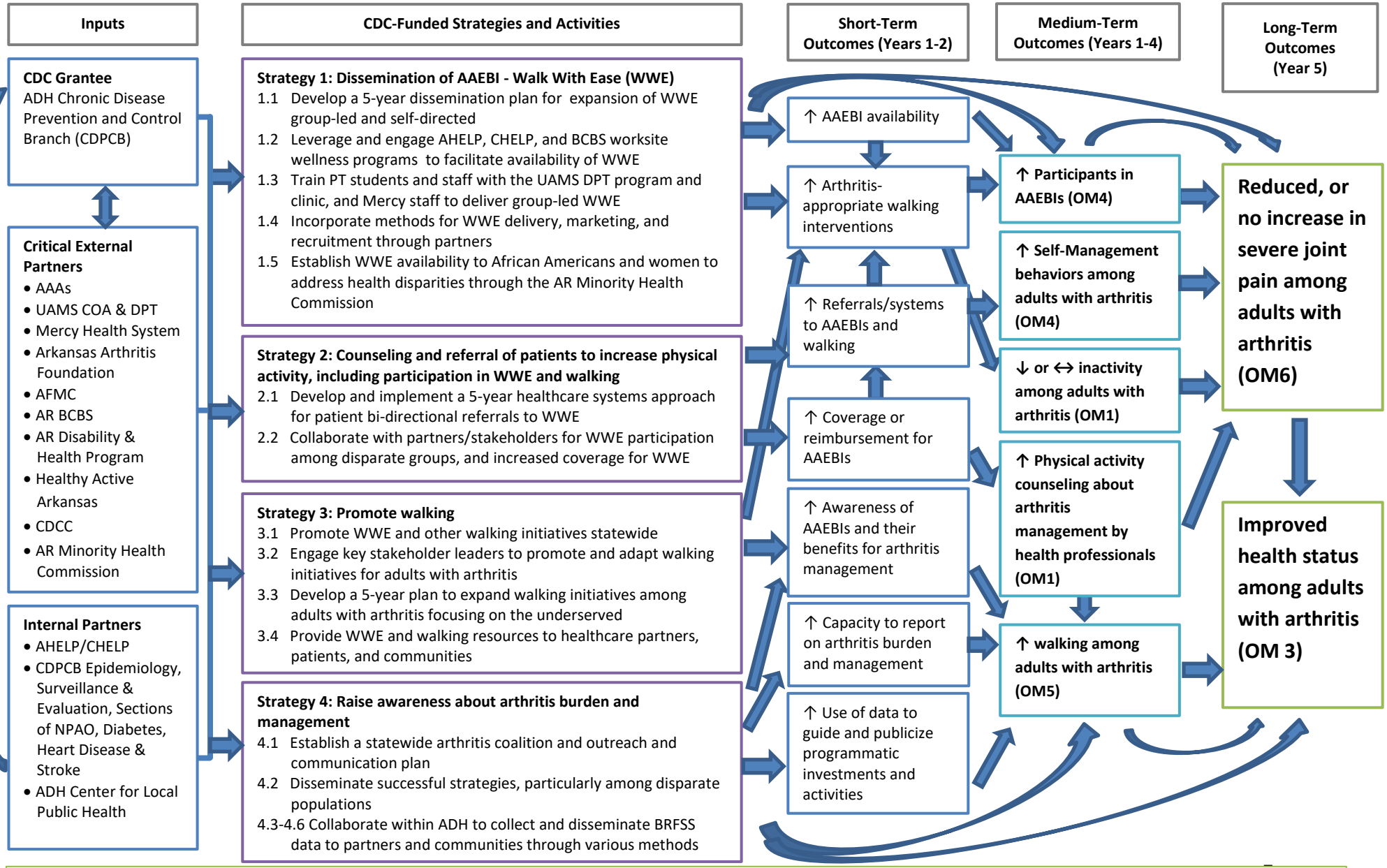
- AHELP/CHELP will help promote WWE among employees.
- Blue Cross Blue Shield Worksite Wellness program will conduct WWE workshops.
- UAMS Northwest Arkansas DPT will add WWE to their training curriculum and deliver WWE. They will participate in a workgroup to implement and disseminate counseling and referral processes in health systems.

- UAMS Reynolds Institute on Aging and Department of Geriatrics will deliver WWE in their COA and participate on the workgroup to implement and disseminate counseling and referral process in health systems.
- AAA Northwest Arkansas will implement WWE.
- East Arkansas AAA will implement WWE.
- Arkansas Minority Health Commission will promote self-directed WWE at their website.
- Arkansas Disability and Health Program will work with Intellectual and Developmental Disability Independent Living Centers to deliver WWE for their clients and will promote WWE with their annual walking program.
- Mercy Northwest Arkansas will implement WWE, promote bi-directional referral for DPP and participate on the workgroup to implement and disseminate counseling and referral process in health systems.
- Hark at the Center for Collaborative Care will promote Arthritis services and WWE on their platform.
- ADH Office of Health Communication will help design and disseminate the media campaign for strategy 4.
- Arkansas Arthritis Foundation will provide technical assistance and participate in Arkansas Arthritis Coalition (AAC) leadership.
- Arkansas Wellness Coalition will promote WWE, counseling and referral and arthritis-related tools to providers through their established process.

C. Logic Model

The logic model below shows the inputs/resources, key strategies and activities, short-term, intermediate-term and long-term outcomes for Arkansas's Arthritis Program.

State Public Health Approaches to Addressing Arthritis (DP18-1803): Arkansas's Arthritis Program Logic Model, 2018-2023



List of Abbreviations and Symbols Used in Logic Model

ADH	Arkansas Department of Health
AAA	Area Agency on Aging
UAMS	University of Arkansas for Medical Sciences
COA	Centers on Aging
DPT	Department of Physical Therapy
AFMC	Arkansas Foundation for Medical Care
AR	Arkansas
BCBS	Blue Cross Blue Shield
CDCC	Chronic Disease Coordinating Council
AHELP	Arkansas Healthy Employee Program
CHELP	Community Healthy Employee Program
NPAO	Nutrition, Physical Activity, and Obesity
AAEBI	Arthritis-appropriate evidence-based intervention
↑	Increased
↔	Maintain
↓	Decreased

C. Evaluation Focus and Plan for Collecting Credible Evidence

Several relevant questions have been formulated to evaluate the ADH Arthritis program (Table 3). Key indicator/measure data for each question will be collected and analyzed using multiple data sources. The evaluation team will utilize several methods of data collection. Primary data collection will be done through interviews, surveys, and records review, and secondary data collection will be accomplished by receipt of de-identified aggregated electronic health records (EHR) data from clinics.

Table 3. Evaluation and Performance Measurement Plan Methods

Evaluation Questions	Indicators/Measures	Data Sources	Data Collection methods	Data Collection Timing	Responsible Person: *Evaluation Type*/ Data Analysis
1. How did statewide dissemination strategies increase participation in AAEBIs among adults with arthritis to reduce physical inactivity, improve arthritis/joint symptoms and arthritis-attributable limitations?	a. % of adults with arthritis who report walking as a one of top 2 forms of exercise b. % of adults with arthritis who are inactive c. % of adults with arthritis who report severe joint pain d. % of adults with arthritis who reports activity limitation, work limitation, and social participation restriction e. % of adults with arthritis who report fair/poor health, or ≥14 unhealthy or limited activity days in the past 30 days f. No. of WWE group leaders trained g. No. of WWE self-directed trainees	a.-e. BRFSS f.-g. ADH Arthritis Program records; Partner records – AAAs, UAMS, Mercy Health System, AHELP/CHELP, BCBS, AFMC; Key informant interviews	a.-e. BRFSS Survey questionnaires f.-g. Data from program and partners activity logs and spreadsheets will be collected by the ADH. Qualitative data will be abstracted from documents and through key informant interviews.	a.-e. Annual f.-g. Monthly; Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic
2. What factors influenced healthcare provider counseling and referral of arthritis patients to AAEBIs and arthritis activity outcomes? What were the gaps in access to AAEBIs and other walking interventions for adults with arthritis and how were these addressed?	a. % of adults with arthritis who receive physical activity or exercise counseling from a healthcare provider b. % of adults with arthritis who report severe joint pain c. % of adults with arthritis who reports activity limitation, work limitation, and social participation restriction d. % of adults with arthritis who report fair/poor health, or ≥14 unhealthy or limited activity days in the past 30 days	a.-d. BRFSS e.-G. ADH Arthritis Program records; Partner records – UAMS, Mercy Health System, AFMC; Key informant interviews	a.-d. BRFSS Survey questionnaires e.-g. Data from program and partners activity logs and spreadsheets will be collected by the ADH. Qualitative data will be abstracted from documents and through key informant interviews.	a.-d. Annual e.-f. Monthly; Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic

	e. No. of patients with arthritis electronically referred to WWE group-led programs by healthcare providers f. No. of patients with arthritis electronically referred to self-directed WWE training by healthcare providers g. No. of referred arthritis patients with feedback from WWE programs on health behaviors and outcomes documented in the EHR				
3. How was awareness of arthritis burden and non-medical management of arthritis through walking interventions raised?	a. % of adults with arthritis who are inactive b. % of adults with arthritis who receive physical activity or exercise counseling from a healthcare provider	a.-b. BRFSS; ADH Arthritis Program records; Partner records; Key informant interviews.	a.-b. BRFSS Survey questionnaires; qualitative data will be abstracted from documents and through key informant interviews.	a.-b. Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Quantitative- frequencies, percentages, population reach, trends • Qualitative - formative, thematic
4. What were the facilitators and barriers for implementation of the Arkansas Arthritis Program? How did partnerships with key stakeholders help to initiate and sustain the ADH Arthritis Program?	a. Facilitators and barriers	a. ADH Arthritis Program records; Partner records; Key informant interviews.	a. Qualitative data will be abstracted from documents and through key informant interviews.	a. Annual	CDPCB Chief Epidemiologist/Evaluator, Arthritis Program Manager, key partners *Process* • Qualitative - formative, thematic

D. Data Management Plan

1) Purpose: To ensure procedures for valid and reliable data collection from non-publicly available data sources, such as electronic health records (EHRs) operated by healthcare systems, School of Physical Therapy and Centers on Aging (COA) that participate in the ADH Arthritis program.
2) Database Development and Implementation: The ADH will develop Excel databases with performance indicators/measures for participating healthcare systems and COAs to collect de-identified aggregated data. The following indicators/measures will be collected:
    - Number of WWE group leaders trained
    - Number of WWE group classes held
    - Number of WWE group participant
    - Number of WWE self-directed participants
    - Number of WWE participants by race/ethnicity, age, sex, and insurance status
    - Number of participant group-led WWE completers (6-week course)
    - Number of patients with arthritis referred to WWE group-led programs by healthcare providers documented in the EHR
    - Number of referred arthritis patients with feedback from WWE programs on health behaviors and outcomes documented in the EHR
    - Number of clinic/hospital patients and community members reached with information about WWE
3) Data Collection: Patients with arthritis will be identified using the following ICD-10 codes by designated individuals within partner organizations that deliver WWE and make referrals to external WWE programs and DPPs. It is anticipated that healthcare systems will create Arthritis databases with the help of internal or external IT support.
    - M15.9 polyosteoarthritis, unspecified
    - M16.9 osteoarthritis of hip, unspecified,
    - M16.0 bilateral osteoarthritis of hip
    - M16.10 Unilateral primary osteoarthritis, unspecified hip
    - M17.0 Bilateral osteoarthritis of knee
    - M17.9 osteoarthritis of knee, unspecified
    - M17.0 Bilateral osteoarthritis of knee
    - M17.10 Unilateral primary osteoarthritis, unspecified knee
    - M18.9 osteoarthritis of first carpometacarpal joint, unspecified
    - M18.0 Bilateral osteoarthritis of first carpometacarpal joint
    - M18.10 Unilateral primary osteoarthritis of first carpometacarpal joint, unspecified
    - M19.90 unspecified osteoarthritis, unspecified site
    - M19.079 Primary osteoarthritis, unspecified ankle & foot
    - M47.9 Spondylosis, unspecified (osteoarthritis of spine)
    - M10.9 gout, unspecified

- M10.079 gout, unspecified ankle/foot
- M06.9 Rheumatoid arthritis, unspecified
- Additional codes for arthritis will also be considered

4) Data Submission and Review: Program-participating partners will send their databases to the ADH monthly for review and monitoring of data trends and progress. Any discrepancies with submitted data will be discussed with respective partners to ensure data gaps are closed.

E. Dissemination of Evaluation Findings/Results

The ADH Arthritis Program will disseminate evaluation findings in a variety of communication formats (Table 4).

Table 4. Evaluation Findings/Results Dissemination Plan

Target Audience	Goals	Format/Channel	Responsible Person(s)
General public	• Promote program progress based on evaluation findings	• ADH website • Media tools • Program brochure	ADH Arthritis Program staff
Partners	• Present executive summaries	• Meetings • Presentations	ADH Arthritis Program staff
CDC, ADH Senior Management	• Reporting program progress and achievement of outcomes • Plan future program changes • Continue and/or enhance program funding	• Interim and annual reports • Meetings • Presentations	ADH Arthritis Program staff, Evaluator

Mumps Data Collection Spreadsheet

**Please submit all cases reported*

Site Reporting:

Name of Person Reporting:

Phone:

Email:

Date Submitted:

Year of Report:

Total Number of Outbreaks:

Please list the total number of cases reported to your jurisdiction this year (if available):

Confirmed	
Probable	
Suspect	
Not A Case	

since August 1, 2018 (at each quarterly submission date)

Case ID	NNDSS ID	Case Status	County	Zip Code	DOB	Age	Ethnicity	Race

Demographics				
Sex	**Occupation**	**Attend or Employed at Daycare or School**	**Other Institutional Setting**	**Outbreak Related**

Outbreak ID	Import Status	First symptom reported	Onset date of first symptom reported	Parotitis or other salivary gland swelling

Parotitis Onset Date	Parotitis End Date	Duration of parotitis (days)	Clinical Notes	Meningitis

Meningitis Onset Date	Encephalitis	Encephalitis Onset Date	Hearing Loss	Hearing Loss Onset Date	Orchitis

Complications					
Orchitis Onset Date	Orchitis End Date	Oophoritis	Oophoritis Onset Date	Mastitis	Mastitis Onset Date

Pancreatitis	Pancreatitis Onset Date	Death	Hospitalized	Days Hospitalized

E

Date Reported to Health Department	Transmission Setting	Other Transmission Setting	Outbreak Name

pidemiology				
Source of Exposure	**Epi-linked to another confirmed or probable case**	**Travel during incubation period (25 days before onset)**	**Travel Destinations**	**Congregate Living Setting**

Other Congregate Living Settings	**Testing Laboratory Type**	**Testing Laboratory Name**	**PCR Specimen Type1**	**PCR Specimen Lab ID1**

PCR Collection Date1	PCR Received at Lab Date1	PCR Result1	PCR Result Date1	PCR Specimen Type2	PCR Specimen Lab ID2

					Laboratory
PCR Collection Date2	PCR Received at Lab2	PCR Result2	PCR Result Date2	Genotype	Sequence ID

IgM Collection Date1	IgM Received at Lab Date1	IgM Serum Lab ID1	IgM Result1	IgM Result Date1	IgM Collection Date2	IgM Received at Lab Date2

IgM Serum Lab ID2	IgM Result2	IgM Result Date2	IgG Collection Date1	IgG Result1	IgG Collection Date2	IgG Result2

		Disease/Vacci			
Culture Collection Date	Culture Result	Confirmed Previous Natural Disease	Vaccinated	Total Number of Doses Received	Number of Doses Received After 1st Birthday

ne History

Vaccination Date1	Vaccination Date2	Vaccination Date3	If not vaccinated, what was the reason

	Notes
Other Reason Not Vaccinated	**Notes**

Confirmed	Hispanic	Native American/Alaskan Native	Male	Yes	Out of Cou	Yes-- Unilat
Probable	Not Hispan	Asian/Pacific Islander	Female	No	Out of Stat	Yes-- Bilate
Suspect	Unknown	African American	Unknown	Unknown	In State	Yes-- Unkn
		White		N/A	Unknown	No hearing
		Other				Unknown
		Unknown				

Day care	Positive	Buccal/oral	A	Religious exemption	Barracks
School	Negative	Urine	B	Medical contraindicati	Corrections
Doctor's Office	Indeterminate		C	Philosophical objectior	Long Term
Hospital Ward	Pending		D	Lab. Evidence of previc	Dormitory
Hospital ER	Not Done		F	MD diagnosis of previc	Boarding Sc
Hospital Outpatient Clinic	Unknown		G	Under age for vaccinat	Camp
Home			H	Parental refusal	Shelter
Work			I	Other	Other
Unknown			J	Unknown	
College			K		
Military			L		
Correctional Facility			N		
Church					
International Travel					
Other					

Alabama	Day care	Yes-- Unilateral	Yes	Yes
Colorado	School	Yes-- Bilateral	No	No
Connecticu	Other	Yes-- Unknown severity	Unknown	Unknown
Georgia		No parotitis	N/A-- case is female	N/A-- case is male
Illinois		Unknown		
Indian				
Iowa				
Kansas				
Kentucky				
Louisiana				
Massachusetts				
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Philadelphia				
Tennessee				
Texas				
Virginia				
Washington				

Contents

Introduction

Washington's governmental public health system (governmental public health system) has a critical and unique public safety role that is focused on protecting and improving the health of Washington's families and communities. According to state law,[1] protecting the public's health is a fundamental responsibility of Washington State.

The **governmental public health system**, is made up 37 governmental public health authorities, including the Washington State Department of Health (DOH), Washington State Board of Health (SBOH), 35 local health jurisdictions (LHJs) and Tribal Nations. Washington's overall public health system is much larger, and also includes other government organizations, and partners, such as health care providers and community-based organizations (CBOs).

Like public safety (fire, police), public utilities (power, water) and other public infrastructure (roads, sewers) there is a foundational level of public health services that must exist everywhere for services to work anywhere. This foundation, called the **Foundational Public Health Services (FPHS)** is a subset of all public health services. **FPHS** are a limited statewide set of core public health services and include **foundational capabilities and programs** that (1) must be available to all people in Washington, and (2) meet one or more of the following criteria:

- Services for which the **governmental public health system** is the only or primary provider of the service, statewide.
- Population-based services (versus individual services) that are focused on prevention.
- Services that are mandated by federal or state laws.

FPHS provide a strong foundation from which the state and local communities can deliver **Additional Important Services (AIS).** These are services that are critical locally and do not necessarily need to be provided by the **governmental public health system** statewide because **AIS** are a shared responsibility of local, state and federal public health and other partners. **AIS** often respond to or are local community priorities. They can also be driven by state initiatives to address disparities across the state.

The differentiation between **FPHS** and **AIS** is not a value judgement, nor is one set of services more important than the other. **FPHS** and **AIS** are both essential to support healthy and economically vital communities across Washington.

This document provides **functional definitions** for **FPHS**.

FPHS Framework

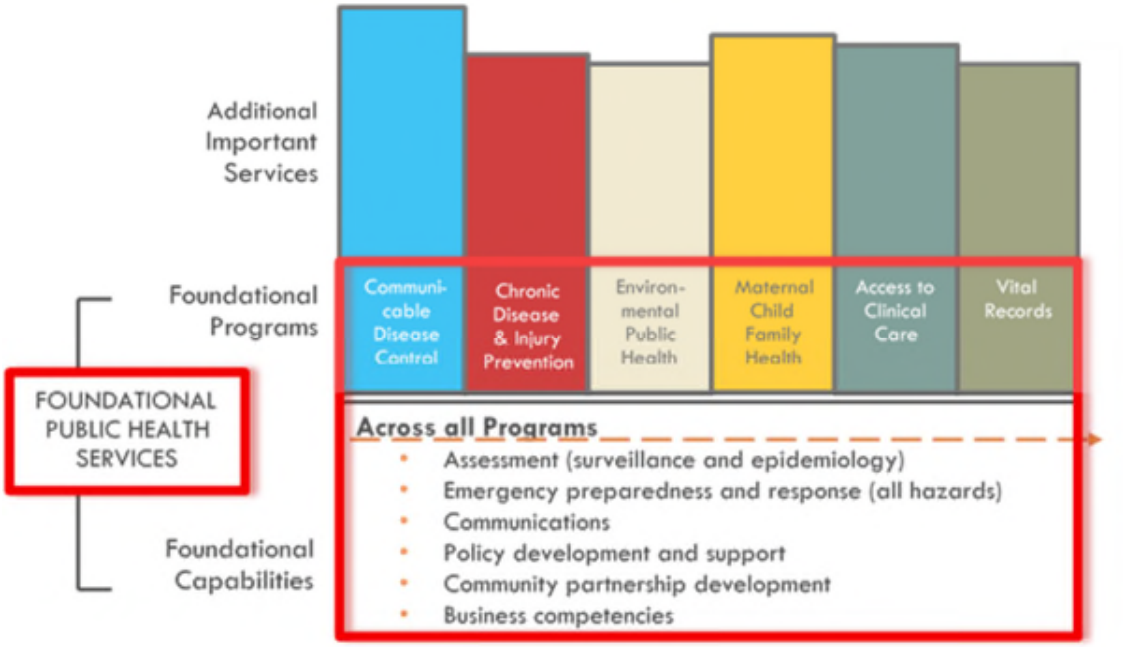
Local and State public health leaders in Washington have been working to develop Washington's **FPHS** framework since 2011. Their work has been guided by the following assumptions:

[1] Revised Code of Washington (RCW) 43.70.512:

1. The **FPHS** framework is based on the role of the **governmental public health system;** it does not include public health services provided by other providers within the overall public health system.
2. The **FPHS** framework defines the services that residents need to have access to or have provided for them everywhere statewide and should be "agnostic" about which governmental public health authority provides them.

Washington's **FPHS** Framework is shown in Exhibit 1.

Exhibit 1: Washington's Foundational Public Health Service Framework



National FPHS Framework

In 2009, the Institute of Medicine (IOM) formed a committee to consider three topics related to population health: data and measurement, law and policy, and funding. Their work culminated in a report, *For the Public's Health: Investing in a Healthier Future (2012),* in which the IOM recommended that a minimum package of public health services be defined. In April 2013, the Public Health Leadership Forum, funded by the Robert Wood Johnson Foundation and facilitated by RESOLVE, developed the national FPHS framework to define this "minimum package of services." The FPHS framework included foundational capabilities and programs that the group felt were needed everywhere for public health to work anywhere, and for which costs could be estimated. This national model is now stewarded by the Public Health National Center for Innovations (PHNCI) has been and continues to be adopted and localized by states across the nation, including Washington. More information on the national FPHS framework is available **here.** [2]

[2] PHNCI FPHS Fact Sheet: http://phnci.org/uploads/resource-files/PHNCI-FPHS-Factsheet_FINAL-1.pdf.

As shown in Exhibit 1, Washington's Public Health Services Framework defines six **foundational capabilities** and six **foundational programs**:

Foundational capabilities are the crosscutting **capacity** and **expertise** needed to support public health programs.

A. Assessment (Surveillance and Epidemiology)
B. Emergency Preparedness (All Hazards)
C. Communication
D. Policy Development and Support
E. Community Partnership Development
F. Business Competencies

Foundational programs are the subset of services in each public health program area that are defined as foundational. In Exhibit 1 this is illustrated by the sections of each colored program column inside the red box.

G. Prevention and Control of Communicable Disease and Other Notifiable Conditions
H. Chronic Disease, Injury and Violence Prevention
I. Environmental Public Health
J. Maternal/Child/Family Health
K. Access/Linkage with Medical, Oral and Behavioral Health Care Services
L. Vital Records

Together, the **foundational capabilities** and **foundational programs** are the limited statewide set of core public health services that must exist everywhere for services to work anywhere.

The Washington **FPHS** framework was first defined by the **FPHS** Technical Workgroup in 2012, then revised by the 2014 **FPHS** Policy Workgroup, and was most recently published as FPHS Definitions V1.2 in March 2016.[3] The original definitions simply included three to seven **elements** under each **foundational capability** and **program** which described the foundational work.

However, for the **governmental public health system** to successfully and consistently implement **FPHS**, more detail was needed in the definitions. In 2017, the **FPHS** Technical Workgroup oversaw the development of **functional definitions** that:

- Describe "what" **FPHS** provides for Washington's communities, but not "how" the **governmental public health system** should provide it,
- Are agnostic to which governmental public health provider should provide it,

[3] FPHS Definitions V1.2, March 2016: https://www.doh.wa.gov/Portals/1/Documents/1200/FPHSp-2016definitions.pdf.

- Are reduced to discreet **activities** (define as few actions as possible per statement) and begin with a verb identifying the action to be taken and,
- Align with existing guidelines and regulations.

These **functional definitions** add detail by establishing **activities** under the **elements** for each **foundational capability and program**.

As part of the **functional definitions** development process, some revisions were made to **FPHS** Definitions V1.2, March 2016 and approved by both the **FPHS** Technical Workgroup and Steering Committee.

This edition of the definitions highlights the **governmental public health system's** role as community strategist with a focus on the foundational services of data, planning and working with partners to develop and implement prioritized plans, seek resources and advocate for high priority policy initiatives.

These definitions are published in this document, the *Foundational Public Health Services Functional Definitions Manual* and are considered Version 1.3.

Future Update Processes

It is expected that these definitions will continue to evolve alongside the public health practice. A process will be established for periodic updates to the **FPHS** definitions, as documented in this *Foundational Public Health Services Functional Definitions Manual*.

How to Use this Manual: Understanding and Implementing Functional Definitions

This document provides **functional definitions** for Washington's **foundational capabilities and programs** meant to help governmental public health authorities operationalize this framework statewide across the public health system, and within their organizations. Each **foundational capability and program** definition includes:

- **12 Foundational Capabilities and Programs (6 Foundational Capabilities and 6 Foundational Programs).** Uppercase lettered A. to L.

  Example: A. denotes the foundational capability "Assessment (Surveillance and Epidemiology.)"

- **48 Elements.** Numbered and individually assigned to one **foundational capability or program**, such that they are represented as "[Foundational Capability Uppercase Letter].[Element Number]."

  *Example: **A. 1.** Denotes the first element of Assessment (Surveillance and Epidemiology), "Ability to collect sufficient statewide and community-level data to develop and maintain electronic information systems to guide public health planning and decision making at the state, regional and local level. Foundational data include (but are not limited to):*

  - *Behavioral Risk Factor Surveillance System (BRFSS),*
  - *Healthy Youth Survey (HYS), and*
  - *Vital statistics.*

  Foundational information systems include:

  - *Washington Disease Reporting System (WDRS),*
  - *Washington Electronic Lab Reporting System (WELRS), and*
  - *Selected clinical data systems (e.g. Comprehensive Hospital Abstract Reporting System [CHARS] and Community Health Assessment Tool [CHAT])"*

- **350 Activities.** Lowercase lettered and individually assigned to one Element, which are also individually assigned to one **foundational capability or program**, such that they are represented as "[Foundational Capability Uppercase Letter].[Element Number].[Activity Lowercase Letter]"

  *Example: **A.1.a.** denotes the first activity under the first element of Assessment (Surveillance and Epidemiology), "Assure access to public health informatics capability."*

It is important to remember that there is significant interplay among the **foundational capabilities and programs**, so governmental public health staff need to be familiar with the full definitions manual, and not simply the definitions specific to the work they do.

Hyperlinks are used throughout the manual to support navigation of the document, and particularly to connect key terms to their definitions in the glossary. To use a hyperlink, simply click the link. After using a hyperlink, you can press Alt + Left Arrow to return to where you were.

Washington Foundational Public Health Services Functional Summary Definitions

Version 1.3, November 2017

FOUNDATIONAL CAPABILITIES

A. Assessment (Surveillance and Epidemiology).

*The **functional definition** of this **foundational capability** includes:*

1. **Ability to** collect sufficient, statewide and community level data and develop and maintain electronic information systems to guide public health planning and decision making at the state, regional and local level. Foundational data include (but are not limited to):
   - Behavioral Risk Factor Surveillance System (BRFSS),
   - Healthy Youth Survey (HYS), and
   - Vital statistics.

   Foundational information systems include:
   - Washington Disease Reporting System (WDRS),
   - Washington Electronic Lab Reporting System (WELRS), and
   - Selected clinical data systems (e.g. Comprehensive Hospital Abstract Reporting System [CHARS] and Community Health Assessment Tool [CHAT]).
2. **Ability to** access, analyze, use and interpret data, including:
   - U.S. Census,
   - Vital Statistics,
   - Notifiable condition data,
   - Selected clinical data sets including Comprehensive Hospital Abstract Reporting System (CHARS),
   - Behavioral Risk Factor Surveillance System (BRFSS),
   - Healthy Youth Survey (HYS),
   - Basic community and environmental health indicators, and
   - Financial data.
3. **Ability to** conduct a comprehensive community or statewide health assessment and identify health priorities arising from that assessment, including analysis of health disparities and the social determinants of health.

B. Emergency Preparedness (All Hazards).

*The **functional definition** of this **foundational capability** includes:*

1. **Ability to** develop emergency response plans for natural and man-made public health hazards; train public health staff for emergency response roles and routinely exercise response plans.
2. **Ability to** lead the Emergency Support Function 8 – Public Health & Medical and/or a public health response for the county, region, jurisdiction and state.
3. **Ability to** activate and mobilize public health personnel and response teams; request and deploy resources; coordinate with public sector, private sector and non-profit response partners and manage public health and medical emergencies utilizing the incident command system.
4. **Ability to** communicate with diverse communities across different media, with emphasis on populations that are disproportionately challenged during disasters, to promote resilience in advance of disasters and protect public health during and following disasters.

C. Communication.

*The **functional definition** of this **foundational capability** includes:*

1. **Ability to** engage and maintain ongoing relations with local and statewide media.
2. **Ability to** develop and implement a communication strategy, in accordance with **Public Health Accreditation Standards**, to increase visibility of public health issues. This includes the **ability to** provide information on health risks, healthy behaviors, and disease prevention in culturally and linguistically appropriate formats for the various communities served.

D. Policy Development and Support.

*The **functional definition** of this **foundational capability** includes:*

1. **Ability to** develop basic public health policy recommendations. These policies must be evidence-based, or, if innovative/promising, must include evaluation plans.
2. **Ability to** work with partners and policy makers to enact policies that are evidence-based (or are innovative or promising and include evaluation plans) and that address the social determinants of health and health equity.
3. **Ability to** utilize cost-benefit information to develop an efficient and cost-effective action plan to respond to the priorities identified in a community and/or statewide health assessment.

E. Community Partnership Development.

*The **functional definition** of this **foundational capability** includes:*

1. **Ability to** create and maintain relationships with diverse partners, including health-related national, statewide and community-based organizations; community groups or organizations representing populations experiencing health inequity; private businesses and health care organizations; Tribal Nations, and local, state and federal government agencies and leaders.
2. **Ability to** select and articulate governmental public health roles in programmatic and policy activities and coordinate with these partners.

F. Business Competencies.

*The **functional definition** of this **foundational capability** includes:*

1. Leadership Capabilities. **Ability to** lead internal and external stakeholders to consensus and action planning (adaptive leadership) and to serve as the public face of governmental public health in the community.
2. Accountability and Quality Assurance Capabilities. **Ability to** uphold business standards and accountability in accordance with local, state and federal laws, regulations and policies and to align work with national and **Public Health Accreditation Standards**.
3. **Quality Improvement** Capabilities. **Ability to** evaluate programs and continuously improve processes.
4. Information Technology Capabilities. **Ability to** develop, maintain and access electronic health information to support operations and analyze health data. Ability to support, maintain and use communication technology.
5. Human Resources Capabilities. **Ability to** develop and maintain a competent workforce, including recruitment, retention and succession planning functions; training; and performance review and accountability.
6. Fiscal Management, Contract and Procurement Capabilities. **Ability to** comply with federal, state, and local standards and policies.
7. Facilities and Operations. **Ability to** procure, maintain, and manage safe facilities and efficient operations.
8. Legal Capabilities. **Ability to** access and appropriately use legal services in planning and implementing public health initiatives.

FOUNDATIONAL PROGRAMS

G. Prevention and Control of Communicable Disease and Other Notifiable Conditions.

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, statewide, locally relevant and accurate information statewide and to communities on prevention and control of communicable disease and other **notifiable conditions**.
2. Identify statewide and local community assets for the control of communicable diseases and other **notifiable conditions**, develop and implement a prioritized control plan addressing communicable diseases and other **notifiable conditions** and seek resources and advocate for high priority prevention and control policies and initiatives regarding communicable diseases and other **notifiable conditions**.
3. Promote immunization through evidence-based strategies and collaboration with schools, health care providers and other community partners to increase immunization rates.
4. Ensure disease surveillance, investigation and control for communicable disease and **notifiable conditions** in accordance with local, state and federal mandates and guidelines.
5. Ensure availability of public health laboratory services for disease investigations and response, and reference and confirmatory testing related to communicable diseases and **notifiable conditions**.
6. When **additional important services** are delivered regarding prevention and control of communicable disease and other **notifiable conditions**, ensure that they are well coordinated with foundational services.

H. Chronic Disease, Injury and Violence Prevention.

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, state and locally relevant and accurate information statewide and to communities on chronic disease (including behavioral health), injury and violence prevention.
2. Identify state and local chronic disease (including behavioral health), injury and violence prevention community assets; develop and implement a prioritized prevention plan and seek resources and advocate for high priority policy initiatives to reduce statewide and community rates of chronic disease, injury and violence.
3. When **additional important services** are delivered regarding chronic disease, injury, and violence prevention, **assure** that they are well coordinated with foundational services.

I. Environmental Public Health.

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, state and locally relevant and accurate information statewide and to communities on environmental public health issues and health impacts from common environmental or toxic exposures.
2. Identify statewide and local community environmental public health assets and partners, and develop and implement a prioritized prevention plan to protect the public's health by preventing and reducing exposures to health hazards in the environment, seek resources and advocate for high priority policy initiatives.
3. Conduct environmental public health investigations, inspections, sampling, laboratory analysis and oversight to protect food, **recreational water**, drinking water and liquid waste and solid waste systems in accordance with local, state and federal laws and regulations.
4. Identify and address priority notifiable zoonotic conditions (e.g. those transmitted by birds, insects, rodents, etc.), air-borne conditions and other public health threats related to environmental hazards.
5. Protect the population from unnecessary radiation exposure in accordance with local, state and federal laws and regulations.
6. Participate in broad land use planning and sustainable development to encourage decisions that promote positive public health outcomes
7. When **additional important services** are delivered regarding environmental public health, **assure** that they are well coordinated with foundational services.

J. Maternal/Child/Family Health.

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, statewide and locally relevant and accurate information statewide and to communities on emerging and ongoing maternal, child and family health trends, taking into account the importance of childhood adversity and health inequities.
2. Identify local maternal, child and family health community assets, develop a prioritized prevention plan using life course **expertise** and an understanding of health inequities, seek resources and advocate for high priority policy initiatives.
3. Assure mandated newborn screening done by the state public health lab to test every infant born in Washington to detect and prevent the developmental impairments and life-threatening illnesses associated with congenital disorders that are specified by the State Board of Health. (state function only)
4. When **additional important services** are delivered regarding maternal, child, and family health, **assure** that they are well coordinated with foundational services.

K. Access/Linkage with Medical, Oral and Behavioral Health Care Services.

*The **functional definition** of this **foundational program** includes:*

1. Provide accurate timely, statewide and locally relevant information statewide and to communities on the medical, oral and behavioral health care system.
2. Participate actively in local, regional and state level collaborative efforts regarding medical, oral and behavioral systems planning to improve health care quality and effectiveness, reduce health care costs and improve population health.
3. Improve patient safety through inspection and licensing of health care facilities and licensing, monitoring and discipline of health care providers. (State function only)
4. When **additional important services** are delivered regarding medical, oral and behavioral health, **assure** that they are well coordinated with foundational services.

L. Vital Records.

*The **functional definition** of this **foundational program** includes:*

1. In compliance with state law and in concert with local, state and national groups, **assure** a system of vital records. (State function only)
2. Provide certified birth and death certificates in compliance with state law and rule.

Washington Foundational Public Health Services Functional Full Definitions

A. Assessment (Surveillance and Epidemiology)

*The **functional definition** of this **foundational capability** includes:*

1. Ability to collect sufficient data and develop and maintain electronic information systems to guide public health planning and decision making at the state, regional and local level.

Foundational data include (but are not limited to):

- **Behavioral Risk Factor Surveillance System (BRFSS),**
- **Healthy Youth Survey (HYS), and**
- **Vital statistics.**

Foundational information systems include:

- **Washington Disease Reporting System (WDRS),**
- **Washington Electronic Lab Reporting System (WELRS), and**
- **Selected clinical data systems (e.g. Comprehensive Hospital Abstract Reporting System [CHARS] and Community Health Assessment Tool [CHAT]).**

Data and Data Systems and Analysis

a. Assure access to public health informatics capability.

b. Develop and implement policies and procedures to standardize and promote best practices related to data systems, analytic methods and tools to promote data quality, accuracy and timeliness statewide.

c. Maintain **ability to** collect primary data and share it with Tribal Nations and governmental public health authorities.

d. Develop and maintain up-to-date electronic information systems for public health surveillance for statewide notifiable disease reporting and investigation (e.g. WDRS).

e. Develop and maintain up-to-date electronic information systems for public health surveillance for statewide notifiable disease reporting from laboratories (e.g. Public Health Reporting of Electronic Data [PHRED]).

f. Develop and maintain up-to-date electronic information systems for public health surveillance for statewide collection of selected clinical data sets such as real-time Emergency Room, sentinel outpatient and hospitalization records and hospital discharge data (e.g. CHARS).

g. Develop and maintain up-to-date electronic information systems for public health surveillance online data analysis of individual data sets and online compilation and analysis of multiple health-related data sets to support governmental agencies in understanding the health of communities and people (e.g. CHAT).

h. Ensure collection of behavioral data via the BRFSS (annual) and HYS (biennial), including as appropriate:
   - Work with partners to design survey questions and parameters within the funds available.
   - Oversee contracts to administer the survey.
   - Coordinate the data collection.
   - Prepare data for independent analyses by stakeholders.

Reporting, Communications, and Policy

i. Ensure access to shared data between Tribal Nations and governmental public health authorities that pertain to the health status of the population they serve.

j. Provide training and technical assistance to local health jurisdictions and community partners on the use of foundational data for assessment.

Prepare for Future Data Needs

k. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and GIS to meet user's requests.

l. Develop and adapt data systems as needed.

2. Ability to access, analyze, use and interpret data, including:

- **U.S. Census,**
- **Vital Statistics,**
- **Notifiable condition data,**
- **Selected clinical data sets including Comprehensive Hospital Abstract Reporting System (CHARS),**
- **Behavioral Risk Factor Surveillance System (BRFSS),**
- **Healthy Youth Survey (HYS),**
- **Basic community and environmental health indicators, and**
- **Financial data.**

a. Develop and implement policies and procedures to standardize and promote best practices related to data systems, analytic methods and tools to promote data quality, accuracy and timeliness.

b. Analyze data, prepare and publish standardized reports and report on specific topics as needed. Assure accuracy of data and interpretation.

c. Produce summaries on key indicators of community health, which include information about social determinants of health.

d. Provide and use the results of health data analysis (including inequities) to develop culturally appropriate recommendations regarding public health policies, processes, programs or interventions.

e. Facilitate the sharing of data, resources and **expertise** through partnerships and relationships.

f. Maintain **24/7 access** to public health surveillance system. Maintain and implement written processes and/or protocols to collect surveillance data from multiple sources and to review and analyze those data, and report out the data, including how they are collected.

g. Assist agency leadership with identification of health priorities and policies based on data analysis, scientific literature, best practices and promising practices.

h. Provide scientific and epidemiologic **expertise** to support leadership.

i. Provide technical assistance to other governmental public health entities and partners regarding access, use, analysis and interpretation of data related to protecting and improving the public's health.

j. Include protocols for confidentiality as appropriate, and **assure** consistency in adherence to data sharing agreements and security policies.

k. Prioritize and respond to information and data requests and translate data into information and reports that are valid, statistically accurate and readable by the intended audiences.

3. Ability to conduct a comprehensive community or statewide health assessment and identify health priorities arising from that assessment, including analysis of health disparities and the social determinants of health.

a. Conduct a comprehensive **state health assessment (SHA)** every three to five years in conjunction with the **governmental public health system** and other statewide partners.

b. Conduct a local and/or regional comprehensive **community health assessment (CHA)** every three to five years in conjunction with community partners.

c. Develop a **state health improvement plan (SHIP)** in conjunction with the **governmental public health system** and other statewide partners.

d. Develop a local and/or regional **community health improvement plan (CHIP)** in conjunction with community partners.

B. Emergency Preparedness (All Hazards)

*The **functional definition** of this **foundational capability** includes:*

1. Ability to develop emergency response plans for natural and man-made public health hazards, train public health staff for emergency response roles and routinely exercise response plans.

a. Maintain **written procedures for Emergency Support Function 8 – Public Health & Medical (ESF8)** in the State or County **Comprehensive Emergency Management Plan (CEMP)** and/or the **Public Health Response Plan**.

b. Develop and sustain local and state-level emergency response teams to provide surge capacity in the areas of environmental public health, epidemiology and surveillance, medical countermeasures response, incident command, radiological response, health care response and emergency medical services (EMS) response. Ensure teams are rostered, trained and exercised annually.

c. Develop and sustain local and statewide mutual aid and partnership agreements with and among **governmental public health system** and Tribal Nations pharmacies, health care organizations, private sector, community organizations and other state agencies.

d. Develop and maintain a **public health preparedness training and exercise plan.**

- Conduct training and exercise on the jurisdiction's **ESF8** response plans, public health plan and policies for staff who serve in the agency or jurisdiction Emergency Operations Center (EOC).
- Ensure training addresses how the **ESF8** response and public health response is coordinated within the jurisdiction's incident command system.
- Write after action reports (AARs) documenting lessons learned from exercises. Identify corrective actions and track progress in completing those actions.

e. Train appropriate public health emergency response staff on information management systems used by public health and emergency management agencies.

f. Maintain a continuity of operations plan (COOP) for the agency. Plans include definition and identification of essential services, line of succession, written delegation of authority for select critical positions and protocols for temporarily discontinuing specific functions to sustain critical services.

g. Plan or participate in, and document, annual emergency preparedness exercises. Include community partners such as schools, hospitals, emergency management, first responders, community organizations and organizations serving priority populations in exercise design and implementation.

2. Ability to lead the Emergency Support Function 8 – Public Health & Medical and/or a public health response for the county, region, jurisdiction and state.

a. Develop, train and exercise a decision-making protocol to support agency leadership in making policy-level decisions during public health incidents.

b. Develop and maintain strategic partnerships with local agencies, non-profit organizations, private sector, health care organizations, state agencies and associations to support public health preparedness, recovery and resilience efforts.

c. Define roles and responsibilities of public health leaders in establishing short-term and long-term community recovery goals.

3. Ability to activate and mobilize public health personnel and response teams; request and deploy resources; coordinate with public sector, private sector and non-profit response partners and manage public health and medical emergencies utilizing the incident command system.

a. Establish and maintain a process for **24/7 access**, including coverage and availability, for urgent public health issues.

b. Maintain an emergency notification system (e.g. WASECURES, E911 Dispatch, or similar system) and include all critical public health response and leadership positions, and essential partners as appropriate, as registered users.

c. Conduct routine staff notification exercises, evaluate results, address issues and make improvements.

d. Maintain procedures for requesting assistance during disasters from the local or state Emergency Operations Center (EOC) and mutual aid partners.

e. Use the incident command system to:

- Determine objectives to address the health needs of those affected,
- Develop situational assessments to determine the functionality of critical public health operations, critical health care facilities, critical infrastructure, and the number of ill, injured, and deceased,
- Identify and allocate resources to address public health needs,
- Return to routine operations, and
- Write after action reports documenting lessons learned from real life activations of plans. Identify corrective actions and track progress in completing those actions.

f. Maintain and exercise procedures and agreements with health care, private sector and community partners to request, receive, distribute and dispense medical countermeasures for statewide and community-wide public health incidents.

4. Ability to communicate with diverse communities across different media, with emphasis on populations that are disproportionately challenged during disasters, to promote resilience in advance of disasters and protect public health during and following disasters.

a. Maintain and annually exercise procedures and various tools to inform the public of threats to health and safety in a manner that is culturally and linguistically appropriate.

b. Create and maintain templates for news releases and social media posts for categories of public health hazards.

c. Work with community leaders, partners, and organizations serving priority populations to communicate public health and health care preparedness, recovery and resilience efforts.

C. Communication

*The **functional definition** of this **foundational capability** includes:*

1. Ability to engage and maintain ongoing relations with local and statewide media.

a. Develop and maintain a **media relations plan** and policies for leveraging media in communicating with the public effectively.

b. Build and maintain relationships with media outlets.

2. Ability to develop and implement a communication strategy, in accordance with Public Health Accreditation Standards,[4] to increase visibility of public health issues. This includes the ability to provide information on health risks, healthy behaviors and disease prevention in culturally and linguistically appropriate formats for the various communities served.

Communications Strategy

a. Develop and implement a communication plan that includes strategies that describe the role and responsibilities of public health, including the mission and value.

b. Apply health education and behavior change principles and audience research and analysis to develop communication strategies and plans. This includes using data about the demographics of the general community and specific populations to tailor communication to specific audiences, such as policy makers, stakeholders, local public health authorities, health care providers, the public and specific population groups.

c. Maintain a list of staff or contractors who provide interpretation, translation or other specific communication services.

d. Upon request, provide technical assistance to programs and LHJs on the development of communication plans and strategies.

e. Make health information accessible by using communication channels preferred by target audiences, including a public-facing website, social media platforms, text messaging and other mobile platforms.

f. Provide a notification system for public health updates or advisories and a **24/7** contact numbers for reporting health emergencies.

[4] Messages, communication products and distribution methods shall be in compliance with ADA Section 508 and consider health literacy, language, literacy, culture and other aspects of ensuring communication is appropriate to the needs of the intended audience.

g. Support ongoing public interaction by ensuring that communications allow for two-way communications with the public (e.g. contact information, surveys, comment boxes, phone, social media and community engagement meetings).

h. Evaluate the effectiveness of communications efforts using tools such as web analytics, surveys or polls. Adjust communications and communications strategies accordingly.

i. Inform and/or coordinate communications between LHJs, state government, national organizations and federal agencies, including the Centers for Disease Control and Prevention.

Regular and Ongoing Communications

j. Provide routine communications to the public.

k. Maintain an up-to-date public website and social media platforms (e.g. Twitter, Facebook and blogs, etc.) that can provide public health information, as part of regular monitoring and responding to community concerns, both routinely and during an emergency.

Emergency Communications Response:

l. Have, test, use and maintain an **emergency communication plan** with defined policies and procedures.

m. Establish or participate in an alert network or similar system to receive and issue alerts **24/7**.

D. Policy Development and Support

*The **functional definition** of this **foundational capability** includes:*

1. Ability to develop basic public health policy recommendations. These policies must be evidence-based, or, if innovative/promising, must include evaluation plans.

a. Identify and incubate locally-appropriate, evidence-based policy, systems and environmental change strategies to improve health outcomes or innovative/promising strategies using an established policy change framework that includes problem identification, policy analysis, strategy and policy development, policy enactment, policy implementation and policy evaluation.

b. Develop a **strategic policy agenda** that includes specific strategies to improve public health at the system level. The plan should contain strategic policy priorities and goals and should align with other plans (e.g. health improvement plan, strategic plan) but can also include policy goals not related to other plans if appropriate.

c. Monitor emerging public health issues, conduct policy analysis and develop policy positions in concert with local, state and national partners.

d. Take a leadership role for communication about how policy changes may impact health.

e. Access literature, journals and research on evidence-based policy options.

2. Ability to work with partners and policy makers to enact policies that are evidence-based (or are innovative and/or promising and include evaluation plans) and that address the social determinants of health and health equity.

a. Coordinate local, state and federal public health policy agendas where appropriate to intentionally advance health equity.

b. Develop and implement the **strategic policy agenda** through agency/organization policy, new/revised public health programs, development/proposal of guidelines, rules, regulations or laws that used evidence-based or innovative/promising practices with a focus on eliminating health, racial, income, geographic and other inequities.

c. Analyze, interpret and respond to proposed policy, and, if enacted, implement local, state and federal policy changes. Describe the impact on public health and health equity.

d. Coordinate within the **governmental public health system** and with federal agencies and other partners on policies that affect public health and health equity.

e. Provide support (e.g. information sharing and technical assistance) to policy leads working in local organizations and, upon request, participate in policy initiatives including those that include multiple organizations.

f. Provide access to public health law consultation and technical assistance (e.g. state attorney general and legal technical assistance groups).

g. Analyze pending legislation, estimate costs for new work, provide data and information as requested by lawmakers and testify on proposed policy changes if appropriate.

h. Review existing laws and work with governing entities and elected/appointed officials to update as needed.

i. Monitor and/or track policies under consideration by the regulatory authority, elected officials, government officials and/or other entities that set policies and practices that impact public health.

j. Evaluate implemented policies to determine whether policy goals were met and use findings to improve and/or revise policies.

3. Ability to utilize cost-benefit information to develop an efficient and cost-effective action plan to respond to the priorities identified in a community and/or statewide health assessment.

a. Access resources to develop and/or make available economic analyses (e.g. cost and/or risk of non-investment, return on investment) for proposed policy changes at the local and/or state level.

b. Ensure access to experts to evaluate the social and economic impact of public health policies (e.g. contracts with economists, if needed).

E. Community Partnership Development

*The **functional definition** of this **foundational capability** includes:*

1. Ability to create and maintain relationships with diverse partners, including health-related national, statewide, and community-based organizations; community groups or organizations representing populations experiencing health inequity; private businesses and health care organizations; Tribal Nations and local, state and federal government agencies and leaders.

a. Create and maintain relationships with and convene cross-sector and cross-cultural stakeholders to establish shared local or statewide priorities, identify a common vision and values and build partnerships to develop and implement coordinated activities to address priority public health issues, with attention to health equity.

b. Evaluate the effectiveness of cross-sector and cross-cultural partnerships in a culturally appropriate way, including evaluating DOH or LHJs as partners. As part of evaluation efforts, address successes, lessons learned, recognized barriers to such collaboration and strategies to overcome these barriers.

Cross-sector stakeholders may include:

- Health-related organizations and health systems;
- Planning and transportation agencies;
- Agriculture and other food systems;
- Private businesses;
- Schools and early learning settings;
- Local and state community groups and organizations; and
- Local, state, and federal public health, Tribal Nations, and other governmental agencies.

2. Ability to select and articulate governmental public health roles in programmatic and policy activities and coordinate with these partners.

a. Convene public health and cross-sector and cross-cultural partners to promote health and address public health issues and health equity.

b. Coordinate policy agendas[5] with partner organizations to advance cross-cutting, strategic goals.

[5] See Policy Development and Support, Element 1, Activity c (D.1.c.).

c. Engage affected communities[6] in developing policy and conducting community/state health assessments and developing health improvement plans to ensure efforts to leverage community resources are community-oriented and culturally-appropriate.

[6]Those affected by the policy and entities/sectors that impact the policy.

F. Business Competencies

*The **functional definition** of this **foundational capability** includes:*

1. Leadership Capabilities. Ability to lead internal and external stakeholders to consensus and action planning (adaptive leadership) and to serve as the public face of governmental public health in the community.

a. Provide leadership and managerial oversight to the agency.

b. Engage in public health policy development, discussion and adoption with local, state and national policy makers to help define the strategic direction of public health initiatives.

c. Lead collaborations with external and cross-sector partners to develop a vision for a healthy community.

d. Develop and implement a governmental public health authority-specific strategic plan to guide resource allocation for strategic priorities.

e. Convene members of the **governmental public health system** and partners to create opportunities to work together to improve the public's health.

f. In collaboration with partners and stakeholders, set the strategic direction and goals for the **governmental public health system** in Washington.

2. Accountability and Quality Assurance Capabilities. Ability to uphold business standards and accountability in accordance with local, state, and federal laws, regulations and policies and to align work with national and Public Health Accreditation Standards.

a. Develop and implement written operations policies and procedures, including organizational charts.

b. Develop and implement policies and procedures that relate to identification and resolution of ethical issues.

3. Quality Improvement Capabilities. Ability to evaluate programs and continuously improve processes.

a. Use performance management, **quality improvement** tools and coaching to promote and monitor organizational objectives and sustain a culture of quality.

b. Develop and maintain performance standards, including goals, targets and performance measures.

c. Collect, maintain and analyze longitudinal data on defined performance measures.

d. Collect, maintain and analyze feedback from customers.

e. Use performance data to inform **quality improvement** and program planning.

f. Communicate goals, targets and performance measures to **governmental public health**, elected officials and the public.

g. Generate regular progress reports that analyze data and communicate performance results.

h. Assist public health programmatic staff and content experts with the development and collection of performance measures used to monitor performance over time.

i. Provide subject matter **expertise** to programs, agencies and partners regarding:

- Meaningful milestones, performance measures, targets and goals for which the appropriate level and frequency of data is available.
- Monitoring, evaluating, analyzing and reporting on performance measures.
- Use of **quality improvement** methods and other tools and techniques, such as Lean, to improve performance.
- Use of financial data, as appropriate, in program evaluation, program design, organization and delivery.
- Literature and resources on the efficiency and effectiveness of alternate structures or processes for delivering services, including published program evaluations and related evidence-based research.

j. Evaluate the efficacy and efficiency, including the financing, organization/structure and delivery of public health policies, programs, strategies, interventions and processes using a variety of evaluation approaches and frameworks.

k. Produce summaries describing the impact of public health policies, programs and strategies on health outcomes, including economic analyses, when appropriate.

4. Information Technology Capabilities. Ability to develop, maintain and access electronic health information to support operations and analyze health data. Ability to support, maintain, and use communication technology.

a. Develop and maintain public health system-wide and local technology and resources[7] that supports current and future public health practice needs including **ability to** collect public health surveillance data, conduct robust analyses and make results available to the public.

[7] Computer Hardware, tables, mobile computing, software (e.g. Office 365), phone systems, secure e-mail, webcam, Rapid Health Information NetwOrk (RHINO) Syndromic Surveillance.

b. Use and disseminate protocols based on best practices to ensure privacy and protection of personally identifiable and/or confidential health information in data systems and information technology.

c. Develop, use and maintain communication technologies needed to interact within the agency and externally with partners and the public.

d. Develop and maintain agreement(s) between **governmental public health** and other data providers to share data relevant to public health.

5. Human Resources Capabilities. Ability to develop and maintain a competent workforce, including recruitment, retention and succession planning functions; training; and performance review and accountability.

a. Assure access to staff with the necessary knowledge, skills and abilities to perform the essential functions of **governmental public health** with ongoing access to training and supervision.

b. Support overall workforce development by providing resources to improve the skills, capabilities and leadership of the public health workforce.

c. Develop public health leaders to effectively support and manage the workforce from hire to retire.

d. Develop and maintain a human resources manual or set of human resources policies and procedures.

e. Provide or have access to adequate human resources support, including recruitment, retention, succession planning, training, performance review and other necessary human resource activities to meet program needs.

f. In **governmental public health** authorities with staff represented by collective bargaining units, develop and maintain productive relationships with collective bargaining units; engage in collective bargaining negotiations as appropriate and ensure access to labor relations **expertise** as needed.

g. Develop and implement a workforce development plan that identifies needed technical and/or informatics skills, competencies and/or positions. Include action plans for recruiting, hiring and/or developing existing staff to meet the needs of and reflect the ethnic, linguistic and cultural aspects of the population served.

h. Coordinate, or perform when necessary, assessments of leadership and organizational capabilities to understand **capacity**, identify gaps and develop strategies to address gaps.

i. Support leaders and employees in understanding equity principles and using inclusionary practices in all aspects of workforce management and workforce culture.

6. Fiscal Management, Contract and Procurement Capabilities. Ability to comply with federal, state and local standards and policies.

a. Develop and maintain financial management and procurement manuals documenting organizational policies and procedures.

b. Establish and maintain budgeting, billing, contracting and financial system(s) in compliance with local, state and federal standards and policies.

c. Produce and monitor an effective governmental public health authority-specific budget.

d. Provide financial management, contract and procurement services, including maintaining records, in accordance with generally accepted accounting principles (GAAP), governmental accounting standards board (GASB) or other compliance requirements.

e. Ensure access to auditing services to evaluate financial management practices and transparency around collection of revenues and disposition of expenditures.

f. Conduct sound financial analyses to inform decisions about policies, programs and services.

7. Facilities and Operations. Ability to procure, maintain and manage safe facilities and efficient operations.

a. Maintain safe, secure and clean facilities in compliance with all relevant laws.

b. Develop plans for future facility and space requirements that align with operational needs.

c. Plan for, acquire and maintain fleet vehicles.

d. Ensure compliance with local, state and federal laws concerning facility accessibility.

8. Legal Capabilities. Ability to access and appropriately use legal services in planning and implementing public health initiatives.

a. Provide or have access to legal services and analysis to support development and enforcement of public health rules, regulations, policies and legislation.

b. Advocate to and collaborate with governing bodies, including boards of health, county commissioners and the governor and state legislature.

G. Prevention and Control of Communicable Disease and Other Notifiable Conditions[8]

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, statewide, locally relevant and accurate information statewide and to communities on prevention and control of communicable disease and other notifiable conditions.

Data and Data Systems and Analysis

a. Collect and maintain communicable disease, other **notifiable conditions** and immunization data to support prevention and control of communicable diseases and other **notifiable conditions** at the state and local level.

b. Develop and maintain up-to-date electronic statewide Immunization Information System (IIS). (Centralized activity – currently provided by DOH)

c. Conduct data entry, validation / clean-up and maintenance as needed to ensure data quality.

d. Access, analyze, and use immunization data to inform evidence-based interventions.

e. Develop and implement protocols for data and information sharing between public health, health care providers (pharmacists and veterinarians when appropriate), other local, state and federal agencies and the public to reduce disease transmission and increase immunization rates. Include protocols for confidentiality as appropriate.

f. Ensure that health care providers, pharmacists, school officials and the public are educated about the statewide IIS and how to enter, maintain and access correct data, as appropriate to ensure data quality.

g. Analyze, interpret and share communicable disease, other **notifiable conditions** and immunization data, including data pertaining to inequities.

Reporting, Communications, and Policy

h. Measure the impact of communicable disease and other **notifiable conditions** and immunization rates on the health of the public, including priority populations.

i. Ensure health care facilities, health care providers, veterinarians and laboratories are educated about **notifiable conditions** requirements including the need for timely and accurate reporting and how to report.

[8] The full current list of notifiable conditions is available here: **https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions.**

j. Maintain **capacity** to prioritize and respond to data requests and as appropriate, prepare data files to share and make available to researchers and other stakeholders.

k. Produce and share periodic/routine reports of communicable disease and other **notifiable conditions** and immunization rates.

l. Inform decision makers of potential and actual impacts to public health based on communicable disease and other **notifiable conditions** data, immunization rates and published reports.

m. Provide the public, regulated facilities, health care facilities, health care providers and stakeholder organizations effective and timely communication about protection recommendations for communicable disease and other **notifiable conditions** while balancing the need to protect personal health information.

n. Use data, evidence-based practices and community input to facilitate development of public health policy, systems and environmental change initiatives for communicable disease, other **notifiable conditions** and immunization rates, including those designed to promote health equity.

Prepare for Future Data Needs

o. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and GIS to meet user's requests.

p. Ability to develop and adapt data systems as needed.

2. Identify statewide and local community assets for the control of communicable diseases and other notifiable conditions, develop and implement a prioritized control plan addressing communicable diseases and other notifiable conditions and seek resources and advocate for high priority prevention and control policies and initiatives regarding communicable diseases and other notifiable conditions.

a. Provide subject matter **expertise** to inform policy, system and environmental change; program design and communications to decision/policy makers, providers, the public and stakeholders about communicable disease and other notifiable condition risks.

b. Identify, develop, engage and maintain local strategic partnerships with health care facilities, health care providers, pharmacists, long-term care facility staff, infection control specialists, school officials, the public and others to prevent, control and mitigate risks from communicable disease and other **notifiable conditions**.

c. Identify, develop, engage, and maintain strategic partnerships with statewide organizations, associations, and government agencies to prevent, control, and mitigate risk from communicable disease and other **notifiable conditions**.

d. Identify, develop, engage and maintain relationships with academic institutions and/or research centers to advance evidence-based practice and innovations related to disease prevention, control and mitigation.

e. Work with partners to develop a prioritized control plan(s) addressing important communicable disease and other **notifiable conditions**, and immunization rates, as needed.

f. Work with partners to advocate for high priority policy, system and environmental change and other initiatives regarding communicable diseases and other **notifiable conditions**.

3. Promote immunization and use of the statewide immunization registry through evidence-based strategies and collaboration with schools, health care providers and other community partners to increase immunization rates.

a. Provide subject matter **expertise** to inform policy, systems and environmental change, program design, and communications to decision/policy makers, providers, the public and stakeholders about vaccine preventable disease and immunizations.

b. Ensure that health care providers, pharmacists, long-term care facility staff, infection control specialists, school officials, the public and others are educated about vaccine-preventable diseases, immunizations and use of the statewide immunization registry called the Immunization Information System (IIS).

c. Develop, implement, and enforce laws, rules, policies and procedures related to immunizations per local, state and federal mandates and guidelines (e.g. school/work exclusion, isolation and quarantine).

d. Identify, develop, engage and maintain local strategic partnerships with health care providers, pharmacists, long-term care facility staff, infection control specialists, school officials, the public and others to use evidence-based strategies that are culturally and linguistically appropriate to increase immunization rates in children and adults and in communities that are disproportionately impacted by low immunization rates.

e. Identify, develop, engage and maintain strategic partnerships with statewide organizations, associations and government agencies to use evidence-based strategies that are culturally and linguistically appropriate to increase immunization rates in children and adults and in communities that are disproportionately impacted by low immunization rates.

f. Identify, develop, engage, and maintain relationships with academic institutions and/or research centers to advance evidence-based practice and innovation regarding immunizations.

g. Work with partners to develop a prioritized plan addressing important immunization issues.

h. Work with partners to advocate for high priority policy, system, and environmental change initiatives regarding immunizations.

4. Ensure disease surveillance, investigation, and control for communicable disease and notifiable conditions in accordance with local, state and federal mandates and guidelines.

a. Notify health care providers, laboratories and health care facilities within the jurisdiction about the requirements related to **notifiable conditions**.

b. Establish and maintain **24/7 access** to receive and respond to case reports in a timely manner according to Washington Administrative Code (WAC) and Revised Code of Washington (RCW) timeframes.

c. Maintain written protocols and procedures for conducting investigations of suspected or identified public health problems/hazards including investigation steps, responsible parties, timelines, handling and submission of specimens, communication with the public health lab and coordination with other applicable agencies. These should address in addition how the principal health care provider will be notified, the use of prophylaxis, the process of exercising legal authority for disease control, internal and external communication.

d. As needed, appropriately sample / collect specimens, ship, and test.

e. Receive case reports and other identifiable data from a variety of providers and laboratories and other reporters.

f. Include protocols to ensure confidentiality of protected health information throughout inspection, investigation, reporting and maintenance of data.

g. Develop and maintain a system/process to communicate rapidly with health care providers during public health emergencies.

h. Evaluate disease control investigations and response and use findings to improve response processes and procedures.

i. Provide consultation and technical assistance to other local and state agencies and the general public. Provide disease-specific and technical **expertise** regarding epidemiologic and clinical characteristics of diseases of public health significance to health care professionals, veterinarians, and others. Advise health care practitioners about evidence-based practices for communicable disease and other **notifiable conditions** diagnosis, treatment, control and prevention.

Disease Surveillance and Investigation

j. Develop, implement and enforce laws, rules, policies and procedures related to the investigation and control of communicable diseases and other **notifiable conditions** per federal, state and local mandates and guidelines (e.g. school/work exclusion, isolation and quarantine).

k. Monitor occurrence and distinguishing characteristics and trends of communicable diseases and other **notifiable conditions** to identify outbreaks and other emerging events (e.g. disease clusters, source and geographical region).

l. Conduct or assist with outbreak investigations that have a communicable disease or other notifiable condition component. Maintain outbreak response and control protocols, including accessing resources and assistance after normal work hours.

m. Conduct timely investigation of complaints related to communicable disease or other **notifiable conditions**, including ensuring **capacity** to identify and respond to rare or previously unidentified infections (conditions for which formal protocols do not yet exist) or novel modes of transmission. Maintain **capacity** (including a system/process) for prioritization and respond to investigate cases and control disease outbreaks within the jurisdiction, in collaboration with partners.

n. Maintain a tracking log of all case reports and investigations.

Specific Conditions of Public Health Importance

o. Provide partner notification services for newly diagnosed cases of syphilis, gonorrhea, Hepatitis C and HIV, according to Centers for Disease Control and Prevention (CDC) guidelines.

p. Provide surveillance, disease investigation and control (including partner services and linkage to curative treatment) for Hepatitis C, according to CDC guidelines.

q. Maintain adequate **expertise** and resources to ensure the identification and appropriate treatment of individuals who have latent tuberculosis (TB) infection and active tuberculosis, including the provision of directly-observed therapy for active TB according to CDC guidelines.

r. Provide education to and coordinate with health care providers to ensure appropriate screening, reporting and treatment of TB.

s. Maintain the **ability to** identify and provide education for a community provider willing to treat latent TB.

t. Conduct timely contact investigation for all active pulmonary TB cases per state guidelines.

u. Review overseas medical records and chest radiographs on all class B immigrants; if needed, perform additional evaluation to ensure active disease is ruled out.

v. Maintain access to consultation with a public health physician with experience in diagnosis and treatment of TB as well as contact investigations.

New and Emerging Conditions and Emergencies

w. Develop and implement plans to identify and respond to emerging infectious diseases (e.g. Severe Acute Respiratory Syndrome [SARS], Middle East Respiratory Syndrome [MERS] and Ebola).

x. Coordinate communicable disease and other **notifiable conditions** public health efforts with Tribal Nations and federal and state partners (e.g. CDC, U.S Food and Drug

Administration [FDA], U.S. Department of Agriculture [USDA], U.S. Environmental Protection Agency [EPA], Washington State Department of Ecology and Washington State Department of Agriculture).

y. Ensure the **ability to** recognize instances of potential biological terrorism and conduct and coordinate appropriate investigations, laboratory testing, and management of exposed persons in collaboration with first responder and law enforcement agencies.

z. Develop action plans for communicable disease and other **notifiable conditions** emergencies.

aa. Develop, maintain and coordinate to provide **surge capacity** to other public health agencies during emergency events or large outbreaks.

bb. Develop and maintain plans for the allocation of scarce resources and medical countermeasures in the event of an emergency or outbreak in collaboration with the regional health care system.

5. Ensure availability of governmental public health laboratory services for disease investigations and response, and reference and confirmatory testing related to communicable diseases and notifiable conditions. (Centralized activity – currently provided primarily by DOH with support from Public Health – Seattle-King County)

a. Provide **24/7 access** to laboratory resources to support testing for **notifiable conditions** and outbreak identification, including biological and chemical agents of weapons of mass destruction.

b. Maintain a current continuity of operations plan (COOP) in the event of a disruption of laboratory services.

c. Promote and maintain innovative scientific and technological infrastructure[9] to provide cutting-edge laboratory services to protect and promote the public's health (e.g. next generation sequencing, bioinformatics, and other advanced techniques).

d. Maintain interdisciplinary collaboration across diverse programs (e.g. epidemiology, preventive health and environmental health) to ensure consistent knowledge and communication on innovation, testing methodologies and results interpretations.

e. Maintain and develop, as needed, appropriate laboratory certification and quality assurance, and ensure compliance with relevant accreditation and regulations.

[9] Maintain the **capacity** to perform isolation, molecular diagnostic testing, and antibiotic susceptibility testing for M. tuberculosis. (State function only)

f. Develop and maintain efficient electronic systems that support data collection, analysis and reporting and **ability to** share confidential lab data within the **governmental public health system** and clinical laboratories. Include protocols for confidentiality as appropriate.

g. Maintain protocols and provide training for proper collection, preparation, packaging and shipment of samples of public health importance.

h. Coordinate with local public health laboratories and federal partners (e.g. CDC, FDA, USDA and EPA) in specimen testing, outbreak identification and testing protocols

i. Develop and maintain **surge capacity** agreements with other public health laboratories (regionally and nationally) to ensure testing **capacity** during emergency events or large outbreaks.

j. Coordinate with clinical laboratories to promote quality assurance, consistency in testing methodologies, result interpretations and safe laboratory practices among clinical and public health laboratories.

6. When additional important services are delivered regarding prevention and control of communicable disease and other notifiable conditions, ensure that they are well coordinated with foundational services.

a. Identify and support relationships, interdependencies and coordination needs between the **foundational program** and related **additional important services (AIS)**.

b. Leverage **foundational program** activities and funding to support identification and implementation of related **AIS** and vice versa.

H. Chronic Disease, Injury and Violence Prevention

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, state and locally relevant and accurate information statewide and to communities on chronic disease (including behavioral health), injury and violence prevention.

Data and Data Systems and Analysis

a. Collect and maintain data (including risk factors and demographic information) on chronic disease, injuries and violence to support public health functions at the state and local level.

b. Analyze and interpret, and share public health data regarding chronic disease, injuries and violence including trends, data pertaining to risk factors and inequities.

c. Develop and implement protocols for data and information sharing between public health, health care providers, Tribal Nations, other local, state, and federal agencies, and the public to reduce chronic disease, injuries and violence. Include protocols for confidentiality as appropriate.

d. Measure the impact of chronic disease, injuries and violence on the health of the public, including priority populations.

e. As appropriate, prepare data files to share and make available to researchers and other stakeholders.

Reporting Communications and Policy

f. Monitor knowledge, attitudes, behaviors and health outcomes related to chronic disease, injuries, and violence and risk factors by using data provided by the state or by conducting surveillance locally.

g. Inform decision makers of potential and actual impacts to public health from chronic disease, injuries, and violence based on data and published reports.

h. Produce and share periodic/routine reports of rates of chronic disease injuries, and violence as well as risk factors and inequities.

i. Provide the public, regulated facilities, and stakeholder organizations effective and timely communication about recommendations to prevent chronic disease, injuries and violence.

j. Use data and evidence-based practices to facilitate development of public health policy, systems and environmental change initiatives for preventing chronic disease, injuries and violence, including those designed to promote health equity.

Prepare for Future Data Needs

k. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and geographic information systems (GIS) to meet user's requests.

l. Develop new and adapt existing data systems as needed.

2. Identify state and local chronic disease (including behavioral health), injury and violence prevention community assets; develop and implement a prioritized prevention plan and seek resources and advocate for high priority policy initiatives to reduce statewide and community rates of chronic disease, injury and violence.

a. Provide subject matter **expertise** to inform policy, systems and environmental change, program design, and communications to decision makers, providers, the public and stakeholders about chronic disease, injury and violence risks.

b. Develop a community asset map that identifies state and local strategic partnerships, including academic institutions and/or research centers.

c. Identify, develop, engage and maintain local and statewide strategic partnerships with organizations, associations and government agencies, academic institutions and/or research centers to advance evidence-based practice and innovation to prevent chronic disease, injuries and violence.

d. Work with partners to review, update and implement a prioritized plan of best and emerging practices aligned with state and national guidelines to address important chronic disease, injury and violence risks and Healthy People[10] federal guidelines objectives.

e. In concert with local, state and national local health community partners, develop and implement prioritized plans for assuring access to specific chronic disease, behavioral health, injury and violence prevention programs and services of public health importance, such as: Reducing rates of tobacco use through activities to reduce youth initiation, increase cessation and reduce secondhand smoke exposure; Increase statewide and community rates of healthy eating and active living; and Seek resources and advocate for high priority policy initiatives.

f. Work with partners to advocate for policy, system and environmental change initiatives regarding chronic disease, injury and violence prevention.

g. Seek funding to implement evidence-based or innovative prevention initiatives.

[10] Healthy People federal guidelines. Available at: **https://www.healthypeople.gov/**.

h. Periodically evaluate progress on reducing rates of chronic disease, injuries, violence and contributing risk factors and use findings to improve prevention strategies.

3. When additional important services are delivered regarding chronic disease, injury and violence prevention, assure that they are well coordinated with foundational services.

a. Identify and support relationships, interdependencies and coordination needs between the **foundational program** and related **additional important services (AIS)**.

b. Leverage **foundational program** activities and funding to support identification and implementation of related **AIS** and vice versa.

I. Environmental Public Health

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, state and locally relevant and accurate information statewide and to communities on environmental public health issues and health impacts from common environmental or toxic exposures.

Data and Data Systems and Analysis

a. Collect and maintain environmental and human health data to support environmental public health functions at the local and state level, including built environment, chemical, radiological and biological hazards.

b. Analyze, interpret and share environmental public health data including data pertaining to the built environment and health inequities.

c. Develop and implement protocols for information sharing between public health, health care providers (including veterinarians), Tribal Nations, other local, state and federal agencies and the public to reduce environmental exposure and disease transmission. Include protocols for confidentiality as appropriate.

d. As appropriate, prepare data files to share and make available to researchers and other stakeholders.

Reporting, Communications, and Policy

e. Provide the public, regulated facilities and stakeholder organizations effective and timely communication of environmental public health hazards and protection recommendations, such as media releases and public health advisories.

f. Measure the impact of environmental hazards on the health of the public, including health inequities. Produce and share periodic/routine reports of diseases or other impacts linked to environmental public health issues.

g. Inform decision makers of potential and actual environmental impacts to public health based on data and published reports.

h. Use data and evidence-based practices to facilitate development of environmental public health policy, systems and environmental change initiative, including those designed to promote health equity.

Prepare for Future Data Needs

i. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and geographic information systems (GIS) to meet user's requests.

j. Develop and adapt data systems as needed.

2. Identify statewide and local community environmental public health assets and partners, and develop and implement a prioritized prevention plan to protect the public's health by preventing and reducing exposures to health hazards in the environment, seek resources and advocate for high priority policy initiatives.

a. Provide subject matter **expertise** to inform policy, system and environmental change, program design and communications that inform decision makers, providers, the public and stakeholders about environmental public health risks.

b. Identify, develop, engage and maintain local strategic partnerships to prevent and control environmental public health risks.

c. Identify, develop, engage and maintain strategic partnerships with statewide associations, government agencies and statewide organizations to prevent and control environmental public health risks.

d. Identify, engage and maintain relationships with academic institutions and/or research centers to advance evidence-based practice and innovation.

e. Work with partners to develop a prioritized control plan addressing important environmental public health risks.

f. Work with partners to advocate for high priority policy, system and environmental change initiatives regarding environmental public health and seek funding to implement evidence-based or innovative **additional important services (AIS)**prevention and control initiatives.

g. Develop action plans for environmental public health emergencies.

h. Coordinate and/or provide **surge capacity** staffing for cross-jurisdictional environmental public health emergency response.

i. Coordinate environmental public health efforts with federal and state partners (e.g. Centers for Disease Control [CDC], United States [U.S.] Food and Drug Administration [FDA], U.S. Department of Agriculture [USDA], U.S. Environmental Protection Agency [EPA], Washington State Department of Ecology and Washington State Department of Agriculture). Document implementation of regulations for mandated public health programs.

3. Conduct environmental public health investigations, inspections, sampling, laboratory analysis and oversight to protect food, recreational water, drinking water and liquid and solid waste systems in accordance with local, state, and federal laws and regulations.[11]

a. Develop environmental public health regulations per local, state and federal mandates.

b. Develop, implement and enforce laws, rules, policies and procedures for maintaining the health and safety of retail food service inspections and shellfish monitoring, that address environmental public health concerns.

c. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of **recreational water** facilities, including through pool and swimming beach health and safety inspections and water quality sampling and testing, that address environmental public health concerns.

d. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of drinking water including through source water protections, water system design review, water system inspections, water quality testing and oversight and plan review to ensure water adequacy, that address environmental public health concerns.

e. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of wastewater and facilities, including onsite septic design and inspections, wastewater treatment and reclaimed water, that address environmental public health concerns.

f. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of solid waste and facilities, including hazardous waste streams (e.g. animal waste, solid waste permitting and solid waste inspections), that address environmental public health concerns.

g. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of schools, including through education and plan review that address environmental public health concerns.

[11] Laboratory testing activities are in *G. Prevention and Control of Communicable Disease and Other Notifiable Conditions.*

h. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of temporary worker housing, that address environmental public health concerns.

i. Develop, implement and enforce laws, rules, policies and procedures for ensuring the health and safety of transient accommodations, including through camp inspections, that address environmental public health concerns.

j. As needed, appropriately sample / collect specimens, ship and test.

k. Develop, implement and enforce laws, rules, policies and procedures for ensuring compliance with smoking in public places laws, that address environmental public health concerns.

l. Implement environmental public health regulations including licensing, inspection, public notification and enforcement actions.

m. Educate individuals and organizations on the meaning, purpose and benefit of public health laws and how to comply.

n. Conduct or assist with outbreak investigations that have an environmental public health component.

o. Conduct timely investigation of complaints related to mandated environmental public health programs.

p. Maintain and implement protocols and systems to ensure confidentiality of protected health information throughout inspection, investigation, reporting and maintenance of data.

q. Maintain **expertise** and provide consultation to other local and state agencies and the general public.

r. Evaluate implementation of environmental public health regulations and disease control investigations and response, and use findings to improve processes and procedures.

4. Identify and address priority notifiable zoonotic conditions (e.g. those transmitted by birds, insects, rodents, etc.), air-borne conditions and other public health threats related to environmental hazards.

a. Develop and implement environmental public health regulations, including licensing, investigations, inspections, containment/mitigation, correction and enforcement, per local, state and federal mandates.

b. As needed, develop and implement plans to identify and respond to emerging zoonotic diseases (e.g. Zika), exposures related to pesticides and other emerging environmental public health issues.

c. Coordinate containment or mitigation of environmental public health hazards (e.g. air quality and exposures to toxic substances) with other government departments and stakeholders.

d. Conduct outreach and provide guidance on the occurrence, prevention and control of zoonotic diseases to Local Health Jurisdictions (LHJs), Washington State Department of Agriculture and Fish and Wildlife, veterinarians and others.

e. Maintain **expertise** and provide consultation to other local and state agencies and the general public about best practices related to vector control.

f. Coordinate and/or provide **surge capacity** staffing for cross-jurisdictional environmental public health emergency response.

5. Protect the population from unnecessary radiation exposure in accordance with local, state and federal laws and regulations.

a. Develop environmental public health regulations for radioactive sources per state and federal mandates.

b. Develop and implement policies and procedures for regulated facility inspections and investigations related to exposure to harmful radioactive sources.

c. Implement environmental public health regulations including registration, licensing, inspection and enforcement actions.

d. Conduct timely investigation of complaints related to radioactive sources.

e. Maintain a trained and equipped radiation emergency response team(s) for radiological emergencies.

f. Maintain and implement protocols and systems to ensure confidentiality throughout inspection, investigation, reporting and maintenance of data.

g. Coordinate environmental public health efforts with federal and state partners (e.g. CDC, FDA, USDA, EPA, the Nuclear Regulatory Commission (NRC), Washington State Department of Ecology and Washington State Department of Agriculture).

h. Provide consultation and technical assistance to LHJs, other agencies and the general public.

i. Monitor and study radiation levels in the environment air, water, soils, foods and vegetation for possible health effects.

j. Document implementation of radiation regulations.

k. Evaluate implementation of radiation regulations and use findings to improve processes and procedures.

6. Participate in broad land use planning and sustainable development to encourage decisions that promote positive public health outcomes.

a. Maintain relationships with partners in economic development, transportation, parks and land use agencies.

b. Understand and participate in land use, transportation, natural resources and other planning processes.

c. Provide technical assistance to planning agencies and community stakeholders to integrate standard environmental public health practices that prevent/reduce high risk for harmful environmental exposures to humans or disease transmission.

d. Anticipate, analyze and communicate about changes in public health risk and benefits resulting from changes to the built and natural environment and potential impacts of climate change through the collection, analysis and interpretation of health and environmental public health data.

e. Provide input on potential health and equity impacts of projects, plans, programs or policies to ensure healthy and sustainable built and natural environments.

f. Document and evaluate integration of standard environmental public health practices into programs and planning processes that prevent high risk for harmful environmental exposures or disease transmission.

7. When additional important services are delivered regarding environmental public health, assure that they are well coordinated with foundational services.

a. Identify and support relationships, interdependencies, and coordination needs between the **foundational program** and related **AIS**.

b. Leverage **foundational program** activities and funding to support identification and implementation of related **AIS** and vice versa.

J. Maternal/Child/Family Health

*The **functional definition** of this **foundational program** includes:*

1. Provide timely, statewide and locally relevant and accurate information statewide and to communities on emerging and ongoing maternal, child and family health trends, taking into account the importance of childhood adversity and health inequities.

Data and Data Systems and Analysis

a. Anticipate future data needs, track new methods of data collection and technology, explore new data sources, identify new uses of data and suggest technological, data architecture, staffing and resource solutions to meet data needs and improve effectiveness and efficiency.

b. Develop and implement protocols for data and information sharing between public health, health care providers, Tribal Nations, other local, state, and federal agencies and the public. Include protocols for confidentiality as appropriate.

c. Analyze, interpret and share public health data regarding the status of maternal, child and family health including trends and data pertaining to risk factors and social and health inequities.

d. Collect and maintain data on health outcomes for preconception, prenatal, natal and postnatal care; childhood, maternal and family health (e.g. Pregnancy Risk Assessment and Monitoring System [PRAMS] and maternal and child death reviews) to support public health functions at the state and local level, including risk factors and demographic information.

Reporting, Communications, and Policy

e. Maintain **capacity** to prioritize and respond to data requests and as appropriate, prepare data files to share and make available to researchers and other stakeholders.

f. Monitor knowledge, attitudes, behaviors and health outcomes related to maternal, child and family health and risk factors by using data provided by the state or by conducting surveillance locally.

g. Produce and share periodic/routine reports on the status of the health of mothers, children and families as well as risk factors that impact their health.

h. Inform decision makers of potential and actual impacts to maternal, child and family health and contributing factors based on data and published reports.

i. Provide the public, health system partners and stakeholder organizations effective and timely communication about recommendations to protect and improve maternal, child and family health.

j. Use data, emerging science (e.g. neuroscience, epigenetics, Adverse Childhood Experiences, resilience) and evidence-based practices to facilitate development of public health policy, systems and environmental change initiatives to protect and improve maternal, child and family health, including those designed to promote health equity.

Prepare for Future Data Needs

k. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and GIS to meet user's requests.

l. Develop and adapt data systems as needed.

2. Identify local maternal, child, and family health community assets, develop a prioritized prevention plan using life course expertise and an understanding of health inequities, seek resources and advocate for high priority policy initiatives.

a. Identify, disseminate and promote emerging and evidence-based information about interventions in the preconception, pregnancy and early childhood periods that optimize lifelong health and social-emotional development.

b. Make training opportunities available in social determinants of health and the health impact of prenatal and early childhood experiences.

c. Identify and promote the use of innovative strategies related to childhood adversity and interventions based on evidence-based or promising practices.

d. Provide subject matter **expertise** to inform policy, systems and environmental change, program design, and communications to decision makers, providers, the public and stakeholders about maternal, child and family health risks and protective factors.

e. Identify, develop, engage and maintain local strategic partnerships with health systems and social service systems, schools, child care centers, businesses, neighborhoods, parents, caregivers and others to strengthen and support families and reduce sources of child and family stress.

f. Identify, develop, engage and maintain strategic partnerships with statewide organizations, associations and government agencies to address adverse impacts to mothers, children and families.

g. Identify, develop, engage, and maintain relationships with academic institutions and/or research centers to advance evidence-based practice and innovation.

h. Engage and support diverse community members and other partners to develop and implement prioritized plans for addressing important maternal, child and family health risks, taking into consideration the impact of social and physical environments on health and well-being.

i. Work with partners to advocate for high priority policy, system, and environmental change initiatives regarding maternal and child health and seek funding to implement evidence-based or innovative prevention initiatives.

3. Assure mandated newborn screening done by the state public health lab to test every infant born in Washington to detect and prevent the developmental impairments and life-threatening illnesses associated with congenital disorders that are specified by the State Board of Health. (Centralized activity – currently provided by DOH)

a. Screen all babies born in Washington according to the State Board of Health (SBOH) Newborn screening regulations and state law.

b. Notify physicians when abnormal tests results are found.

c. Provide technical assistance to health care providers, parents and the public about congenital disorders on the newborn screening panel.

d. Ensure that positive screens receive further testing and diagnosis, and that diagnosed patients receive referrals into a system of care according to national guidelines.

4. When additional important services are delivered regarding maternal, child and family health, assure that they are well coordinated with foundational services.

a. Identify and support relationships, interdependencies, and coordination needs between the **foundational program** and related **additional important services (AIS)**.

b. Leverage **foundational program** activities and funding to support identification and implementation of related **AIS** and vice versa.

K. Access/Linkage with Medical, Oral and Behavioral Health Care Services

*The **functional definition** of this **foundational program** includes:*

1. Provide accurate timely, statewide and locally relevant information statewide and to communities on the medical, oral and behavioral health care system.

Data and Data Systems and Analysis

a. Collect and maintain data to support public health at the state and local level (e.g. Health Professional Shortage Areas [HPSA] and other data).

b. Access, analyze, interpret and share data about health care, including disaggregating data to identify inequities.

c. Collect and maintain health care provider and facility licensing, inspection and enforcement data to support public health at the state level.

d. Develop and implement protocols for data and information sharing between public health, health care providers, health care systems, Tribal Nations, other local, state, and federal agencies and the public. Include protocols for confidentiality as appropriate.

e. As appropriate, prepare data files to share and make available to researchers and other stakeholders.

Reporting, Communications, and Policy

f. Produce and share periodic/routine reports of health care access and regulation of health care providers and facilities.

g. Inform decision makers of potential and actual impacts to the health of the public based on data and published reports.

h. Provide the public, regulated facilities and stakeholder organizations with effective and timely communication of recommendations for medical, oral and behavioral health care and ensuring public safety.

i. Use data and evidence-based practices to facilitate development of public health policy, systems and environmental change initiatives for medical, oral and behavioral health care and public safe, including those designed to promote health equity.

Prepare for Future Data Needs

j. Fulfill future data needs using multiple methods and sources for data collection, analysis and presentation using evolving technology with near real-time data displayed using visualization tools and GIS to meet user's requests.

k. Ability to develop and adapt data systems as needed.

2. Participate actively in local, regional and state level collaborative efforts regarding medical, oral and behavioral systems planning to improve health care quality and effectiveness, reduce health care costs and improve population health.

a. Continuously work with local and state partners to improve health care quality and effectiveness, reduce health care costs and improve population health. Identify evidence-based interventions and promising practices for population health, especially those that are upstream and preventative. Share information with partners and the public on these interventions.

b. Collaborate with partners in finding funding for these interventions.

c. Evaluate progress on health care quality and effectiveness, reduction of health care costs and improving population health at the state and local level every three to five years. Use findings to improve intervention strategies with partners.

d. In concert with local, state and national health care providers and groups, develop and implement prioritized plans for assuring access to specific clinical services of public health importance, such as family planning, key services for pregnant women and their infants (e.g. maternity support and Women, Infants, and Children [WIC]) and sexually transmitted disease (STD) and Human Immunodeficiency Virus (HIV) testing and treatment; appropriate follow-up for positive newborn screening test (e.g. referrals to the Children with Special Health Care Needs [CSHCN] program) and positive blood lead levels; seek resources and advocate for high priority policy initiatives.

e. Provide subject matter **expertise** to inform policy, systems and environmental change, program design, and communications to decision makers, providers, the public and stakeholders about relevant public health risks. This includes building understanding of social determinants of health, risk and protective factors and the value of prevention and early upstream intervention to improve population health and reduce costs.

f. Identify, develop, engage and maintain local strategic partnerships with health and behavioral health systems, community groups, social services, criminal justice, education system and others to increase access to services of public health importance.[12]

[12] Within K.2., clinical services of public health importance include family planning, key services for pregnant women and their infants (e.g. maternity support and Women, Infants, and Children [WIC]) and sexually transmitted disease (STD) and Human Immunodeficiency Virus (HIV) testing and treatment; appropriate follow-up for positive newborn screening test (e.g. referrals to the Children with Special Health Care Needs [CSHCN] program) and positive blood lead levels; seek resources and advocate for high priority policy initiatives.

g. Identify, develop, engage and maintain strategic partnerships with statewide organizations, associations and government agencies to increase access services of public health importance.[13]

h. Work with partners to develop a prioritized plan addressing increased access to high priority public health services.[13]

i. Work with partners to advocate for high priority policy, system, and environmental change initiatives regarding access to high priority public health services[13] and seek funding to implement evidence-based or innovative prevention and disease control initiatives considered **FPHS**.

j. Identify, develop, engage and maintain relationships with academic institutions and/or research centers to advance evidence-based practice and innovation.

k. Work with local health care systems to address health care shortages and emergent health care gaps.

3. Improve patient safety through inspection and licensing of health care facilities and licensing, monitoring and discipline of health care providers. (Centralized activity – currently provided by DOH)

a. Develop health care provider and facility public health regulations per local, state and federal mandates.

b. Develop and implement policies and procedures for regulated facility inspections.

c. Enforce health care provider and facility public health regulations including licensing, inspection and enforcement actions.

d. Conduct or assist with investigations that have a patient safety, communicable disease or other health risk component.

e. Conduct timely investigation of complaints related to mandated public health programs.

f. Develop action plans for health care facility emergencies.

g. Maintain and implement protocols and systems to ensure confidentiality throughout inspection, investigation, reporting and maintenance of data.

h. Provide consultation and technical assistance to other local and state agencies and the general public.

[13] Within K.2., clinical services of public health importance include family planning, key services for pregnant women and their infants (e.g. maternity support and Women, Infants, and Children [WIC]) and sexually transmitted disease (STD) and Human Immunodeficiency Virus (HIV) testing and treatment; appropriate follow-up for positive newborn screening test (e.g. referrals to the Children with Special Health Care Needs [CSHCN] program) and positive blood lead levels; seek resources and advocate for high priority policy initiatives.

i. Coordinate public health efforts with Tribal Nations and local, state and federal partners.

j. Evaluate implementation of patient safety regulations and use findings to improve processes and procedures.

4. When additional important services are delivered regarding medical, oral and behavioral health, assure that they are well coordinated with foundational services.

a. Identify and support relationships, interdependencies, and coordination needs between the **foundational program** and related **additional important services (AIS)**.

b. Leverage **foundational program** activities and funding to support identification and implementation of related **AIS** and vice versa.

L. Vital Records

*The **functional definition** of this **foundational program** includes:*

1. In compliance with state law and in concert with local, state and national groups, assure a system of vital records. (Centralized activity – currently provided by DOH)

a. Develop and implement statewide policies, regulations and law on vital records, including adequate standards for security, fraud prevention and proper records identification.

b. Develop and maintain secure information technology systems, used by the Washington State Department of Health (DOH) and Local Health Jurisdictions (LHJs), for registering vital records, permanently storing the records and issuing copies.

c. Maintain systems for state and federal agencies to electronically access Washington's vital records for public benefit eligibility verification and termination, establishment of social security numbers, child support enforcement, and other purposes.

d. Manually enter reports of vital events filed on paper.

e. Perform amendments and corrections to information on vital records.

f. Provide guidance and training to individuals responsible for vital records registration including LHJ deputy registrars, medical examiners, coroners, funeral directors, physicians, midwives, hospital birth clerks, county auditors and county court clerks.

g. Perform quality checks, edits and coding of the data collected on vital records.

h. Electronically exchange vital records with other states, submit data to the Centers for Disease Control (CDC) National Vital Statistics System and provide records to other authorized data partners.

i. Produce and securely release vital statistics data for public health assessment, evaluation and research in a timely manner.

2. Provide certified birth and death certificates in compliance with state law and rule.

a. Register records of births and deaths that occur in the local jurisdiction, using the state's Washington Health and Life Event System (WHALES) and the Electronic Death Registration System (EDRS). Review records for compliance with state laws, rules and policies.

b. Issue certified copies of birth and death records for events that occurred in any Washington jurisdiction using the state vital records system.

c. Perform electronic verification and/or certification of vital events.

Appendix A: Functional Definitions Development Process

The Washington **Foundational Public Health Services (FPHS**) framework was first defined by the **FPHS** Technical Workgroup in 2012, then revised by the 2014 **FPHS** Policy Workgroup, and was most recently published as **FPHS** Definitions V1.2 in March 2016.[14] The original definitions simply included three to seven **elements** under each **foundational capability and program** which described the foundational work.

However, for the **governmental public health system** to successfully and consistently implement **FPHS**, more detail was needed in the definitions. In 2017, the **FPHS** Technical Workgroup oversaw the development of **functional definitions** that:

- Describe "what" **FPHS** provides for Washington's communities, but not "how" the **governmental public health system** should provide it,
- Are agnostic to which governmental public health provider should provide it,
- Are reduced to discreet activities (define as few actions as possible per statement) and begin with the verb identifying the action to be taken, and
- Align with existing guidelines and regulations.

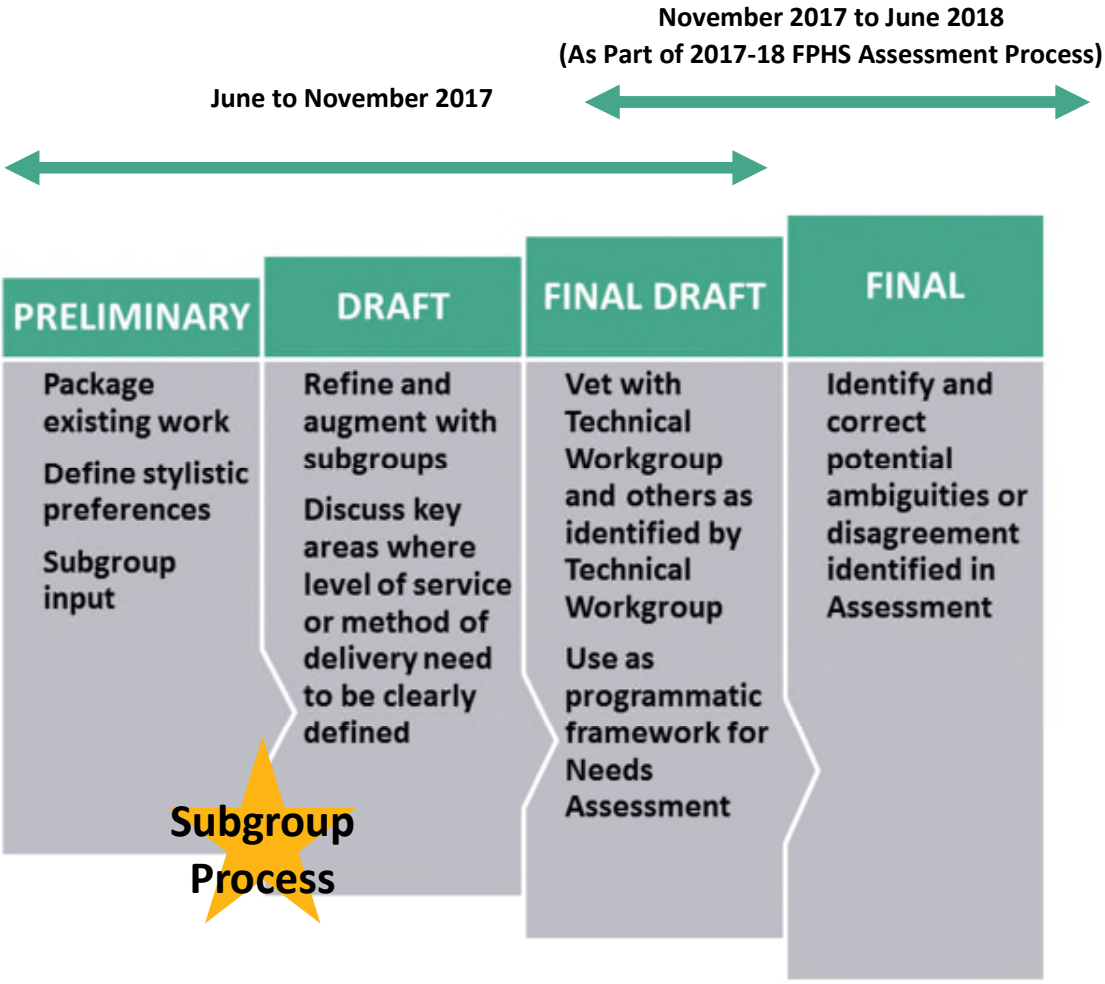
These **functional definitions** add detail by establishing **activities** under the **elements** for each **foundational capability and program**.

As part of the **functional definitions** development process, some revisions were made to **FPHS** Definitions V1.2, March 2016 and approved by both the **FPHS** Technical Workgroup and Steering Committee.

The **FPHS** Technical Workgroup formed subgroups comprised of **governmental public health system** subject matter experts to provide input on preliminary draft chapters for each of the **foundational capabilities and programs** in a three-step iterative process (See *Acknowledgements* for the list of subgroup members). There work as part of a broader **functional definitions** development process, illustrated in Exhibit 2.

[14] FPHS Definitions V1.2, March 2016: https://www.doh.wa.gov/Portals/1/Documents/1200/FPHSp-2016definitions.pdf.

Exhibit 2: Functional Definitions Development Process



Source: BERK Consulting, 2017.

As part of this iterative process, a series of draft functional definition manuals were developed, including:

- **Preliminary Draft 1.0.** Initial version of the **functional definitions** based on packaging of existing work, resources, and products.
- **Preliminary Draft 2.0.** First iteration developed by subgroup, incorporating their input from the first round of edits.
- **Preliminary Draft 3.0.** Second iteration developed by subgroup, incorporating their input from the second round of edits.
- **Draft.** Third iteration developed by subgroup, incorporating their input from the third round of edits. This version was vetted by the **governmental public health system**, including the Technical Workgroup.
- **Final Draft.** Final vetted version which is documented in this manual and will be used as the programmatic framework of the statewide **FPHS** Assessment.

The **functional definitions** published in this document (considered to be Version 1.3), the final draft *Foundational Public Health Services Functional Definitions Manual.* As shown in Exhibit 2, it is expected that these final draft **functional definitions** will be refined into a final version following completion of the 2017-18 FPHS Assessment in June 2018.

Beyond development of the final *Foundational Public Health Services Functional Definitions Manual*, it is expected that these definitions will continue to evolve alongside the public health practice. A process will be established for periodic updates to the **FPHS** definitions, and *Foundational Public Health Services Functional Definitions Manual.*

ACKNOWLEDGEMENTS

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Appendix B: Crosswalk to PHAB Accreditation Standards

This crosswalk shows how the FPHS Functional Definitions (at the element-level) align to Public Health Accreditation Board (PHAB) Accreditation Standards (Version 1.5), which describe how public health as a practice "improves and protects the health of every community by advancing the quality and performance of public health departments".

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Domain 1: Conduct and disseminate assessments focused on population health status and public health issues facing the community.		
Standard 1.1	Participate in or lead a collaborative process resulting in a comprehensive community health assessment.	• **Assessment (Surveillance and Epidemiology), Element 3 (A.3.)**
Standard 1.2	Collect and maintain reliable, comparable and valid data that provide information on conditions of public health importance and on the health status of the population.	• **Assessment (Surveillance and Epidemiology), Element 1 (A.1.)**
Standard 1.3	Analyze public health data to identify trends in health problems, environmental public health hazards and social and economic factors that affect the public's health.	• **Assessment (Surveillance and Epidemiology), Element 2 (A.2.)** • **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 1 (G.1.)** • **Chronic Disease, Injury and Violence Prevention, Element 1 (H.1.)** • **Environmental Public Health, Element 1 (I.1.)** • **Maternal/Child/Family Health, Element 1 (J.1.)**

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Standard 1.4	Provide and use the results of health data analysis to develop recommendations regarding public health policies, processes, programs or interventions.	• **Policy Development and Support, Element 1 (D.1.)** • **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 1 (G.1.)** • **Chronic Disease, Injury and Violence Prevention, Element 1 (H.1.)** • **Environmental Public Health, Element 1 (I.1.)** • **Maternal/Child/Family Health, Element 1 (J.1.)**
Domain 2: Investigate health problems and environmental public health hazards to protect the community.		
Standard 2.1	Conduct timely investigations of health problems and environmental public health hazards.	• **Environmental Public Health, Element 3 (I.3.)**
Standard 2.2	Contain/mitigate health problems and environmental public health hazards.	• **Environmental Public Health, Element 3 (I.3.)** • **Environmental Public Health, Element 4 (I.4.)** • **Environmental Public Health, Element 5 (I.5.)**
Standard 2.3	Ensure access to laboratory and epidemiological/environmental public health expertise and capacity to investigate and contain/mitigate public health problems and environmental public health hazards.	• **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 5 (G.5.)** • **Environmental Public Health, Element 3 (I.3.)**
Standard 2.4	Maintain a plan with policies and procedures for urgent and non-urgent communications.	• **Emergency Preparedness (All Hazards), Element 4 (B.4.)** • **Communication, Element 2 (C.2.)**

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Domain 3: Inform and educate about public health issues and functions.		
Standard 3.1	Provide health education and health promotion policies, programs, processes and interventions to support prevention and wellness.	• **Policy Development and Support, Element 1 (D.1.)** • **Chronic Disease, Injury and Violence Prevention, Element 3 (H.3.)**
Standard 3.2	Provide information on public health issues and public health functions through multiple methods to a variety of audiences.	• **Communication, Element 2 (C.2.)** • **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 1 (G.1.)** • **Chronic Disease, Injury and Violence Prevention, Element 1 (H.1.)** • **Environmental Public Health, Element 1 (I.1.)** • **Maternal/Child/Family Health, Element 1 (J.1.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 1 (K.1.)**
Domain 4: Engage with the community to identify and address health problems.		
Standard 4.1	Engage with the public health system and the community in identifying and addressing health problems through collaborative processes.	• **Community Partnership Development, Element 1 (E.1.)**

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Standard 4.2	Promote the community's understanding of and support for policies and strategies that will improve the public's health.	• **Community Partnership Development, Element 1 (E.1.)** • **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 2 (G.2.)** • **Chronic Disease, Injury and Violence Prevention, Element 2 (H.2.)** • **Environmental Public Health, Element 2 (I.2.)** • **Maternal/Child/Family Health, Element 2 (J.2.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 2 (K.2.)**
Domain 5: Develop public health policies and plans.		
Standard 5.1	Serve as a primary and expert resource for establishing and maintaining public health policies, practices, and capacity.	• **Community Partnership Development, Element 1 (E.1.)**
Standard 5.2	Conduct a comprehensive planning process resulting in a Tribal/state/community health improvement plan.	• **Assessment (Surveillance and Epidemiology), Element 3 (A.3.)**
Standard 5.3	Develop and implement a health department organizational strategic plan.	• **Business Competencies, Element 1 (F.1)**
Standard 5.4	Maintain an all hazards emergency operations plan.	• **Emergency Preparedness (All Hazards), Element 1 (B.1.)**
Domain 6: Enforce public health laws.		
Standard 6.1	Review existing laws and work with governing entities and elected/appointed officials to update as needed.	• **Policy Development and Support, Element 2 (D.2.)**

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Standard 6.2	Educate individuals and organizations on the meaning, purpose and benefit of public health laws and how to comply.	• **Community Partnership Development, Element 1 (E.1.)** • **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 2 (G.2.)** • **Chronic Disease, Injury and Violence Prevention, Element 2 (H.2.)** • **Environmental Public Health, Element 2 (I.2.)** • **Maternal/Child/Family Health, Element 2 (J.2.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 2 (K.2.)**
Standard 6.3	Conduct and monitor public health enforcement activities and coordinate notification of violations among appropriate agencies.	• **Prevention and Control of Communicable Disease and Other Notifiable Conditions, Element 4 (G.4.)** • **Environmental Public Health, Element 4 (I.3.)** • **Environmental Public Health, Element 4 (I.4.)** • **Environmental Public Health, Element 5 (I.5.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 3 (K.3.)**
Domain 7: Promote strategies to improve access to health care.		
Standard 7.1	Assess health care service capacity and access to health care services.	• **Assessment (Surveillance and Epidemiology), Element 2 (A.2.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 1 (K.1.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 2 (K.2.)**

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Standard 7.2	Identify and implement strategies to improve access to health care services.	• **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 2 (K.2.)** • **Access/Linkage with Medical, Oral and Behavioral Health Care Services, Element 4 (K.4.)**
Domain 8: Maintain a competent public health workforce.		
Standard 8.1	Encourage the development of a sufficient number of qualified public health workers.	• **Business Competencies, Element 5 (F.5.)**
Standard 8.2	Ensure a competent workforce through the assessment of staff competencies, the provision of individual training and professional development, and the provision of a supportive work environment.	• **Business Competencies, Element 5 (F.5.)**
Domain 9: Evaluate and continuously improve health department processes, programs and interventions.		
Standard 9.1	Use a performance management system to monitor achievement of organizational objectives.	• **Business Competencies, Element 2 (F.2.)**
Standard 9.2	Develop and implement quality improvement processes integrated into organizational practice, processes and interventions.	• **Business Competencies, Element 3 (F.3.)**
Domain 10: Contribute to and apply the evidence base of public health.		
Standard 10.1	Identify and use the best available evidence for making informed public health practice decisions.	• **Policy Development and Support, Element 1 (D.1.)**
Standard 10.2	Promote understanding and use of the current body of research results, evaluations and evidence-based practices with appropriate audiences.	• **Policy Development and Support, Element 1 (D.1.)**
Domain 11: Maintain administrative and management capacity.		

PHAB Accreditation Standards		WA FPHS Functional Definitions Elements
Standard 11.1	Develop and maintain an operational infrastructure to support the performance of public health functions.	• **Business Competencies, Element 4 (F.4.)** • **Business Competencies, Element 7 (F.7.)**
Standard 11.2	Establish an effective financial management system.	• **Business Competencies, Element 6 (F.6.)**
Domain 12: Maintain capacity to engage the public health governing entity.		
Standard 12.1	Maintain current operational definitions and statements of the public health roles, responsibilities and authorities.	• **Community Partnership Development, Element 2 (E.2.)** • **Business Competencies, Element 1 (F.1.)**
Standard 12.2	Provide information to the governing entity regarding public health and the official responsibilities of the health department and of the governing entity.	• **Business Competencies, Element 1 (F.1.)**
Standard 12.3	Encourage the governing entity's engagement in the public health department's overall obligations and responsibilities.	• **Business Competencies, Element 1 (F.1.)**

Appendix C: Acronyms

AAR	After Action Reports
ACE	Adverse Childhood Events
BRFSS	Behavioral Risk Factor Surveillance System
CBO	Community-based Organizations
CDC	Centers for Disease Control
CEMP	Comprehensive Emergency Management Plan
CHA	Community Health Assessment
CHARS	Comprehensive Hospital Abstract Reporting System
CHAT	Community Health Assessment Tool
CHIP	Community Health Improvement Plan
COOP	Continuity of Operations Plan
DOH	Washington State Department of Health
EDRS	Electronic Death Registration System
EMS	Emergency Medical Services
EOC	Emergency Operations Center
EPA	United States Environmental Protection Agency
ESF8	Emergency Support Function 8 – Public Health & Medical
FDA	United States Food and Drug Administration
FPHS	Foundational Public Health Services
GAAP	Generally Accepted Accounting Principles
GASB	Governmental Accounting Standards Board
GIS	Geographic Information Sytems
HIV	Human Immunodeficiency Virus
HPSA	Health Professional Shortage Area
HYS	Healthy Youth Survey
IOM	Institute of Medicine

IIS	Immunization Information System
LHJ	Local Health Jurisdiction
MERS	Middle East Respiratory Syndrome
PHAB	Public Health Accreditation Board
PHNCI	Public Health National Center for Innovations
PHRED	Public Health Reporting of Electronic Data
PRAMS	Pregnancy Risk Assessment Monitoring System
RCW	Revised Code of Washington
RHINO	Rapid Health Information NetwOrk
SARS	Severe Acute Respiratory Syndrome
SHA	State Health Assessment
SHIP	State Health Improvement Plan
STD	Sexually Transmitted Disease
TB	Tuberculosis
USDA	United States Department of Agriculture
WAC	Washington Administrative Code
WDRS	Washington Disease Reporting System
WELRS	Washington Electronic Lab Reporting System
WHALES	Washington Health and Life Event System

Appendix D: Glossary

24/7 Access: Each governmental public health authority as well as a few specific DOH programs must be reachable by phone 24/7 for urgent or emergency issues. It is expected that use of the 24/7 agency or program contact numbers will reach, within 15 minutes, a knowledgeable public health professional capable of assessing an event or urgent public health consequence and initiating an appropriate response.

Ability to: Capacity and expertise to implement an activity, element and/or foundational capability or program, as needed.

Activities: Components of the definitions that further describe the work of the governmental public health system in implementing elements. There are 350 activities which are intended to be as discreet as possible, defining as few actions as possible per statement) and begin with a verb identifying the action to be taken. They are denoted by lowercase lettered and individually assigned to one Element, which are also individually assigned to one foundational capability or program, such that they are represented as "[Foundational Capability Uppercase Letter].[Element Number].[Activity Lowercase Letter]."

Additional Important Services (AIS): These are services that are critical locally and do not necessarily need to be provided by governmental public health statewide because they are a shared responsibility of local, state and federal governmental public health and other partners.

Assure[15]: The dictionary definitions implies the removal of doubt and suspense from a person's mind In the context of the FPHS definitions, this means that it is foundational for the governmental public health system to invest time and resources as needed to make sure that the service is available to the community, generally as provided by partner organizations. The service may already be provided by a partner organization or governmental public health may coordinate with partners to get them to provide the service. If no other organization is willing or able to provide the service, governmental public health may decide to become the provider of the services and seek the necessary funds for the service.

Capacity: Staff with the necessary expertise and associated resources to provide the activity, element and/or foundational capability or program.

Community Health Assessment (CHA): An assessment of community health. A CHA should be conducted every three to five years in conjunction with community partners that:

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[15] PHAB definition of "Assurance": "The process of determining that "services necessary to achieve agreed upon goals are provided, either by encouraging actions by other entities (public or private sector), by requiring such action through regulation, or by providing services directly." (Institute of Medicine, *The Future of Public Health.* Washington, DC: National Academy Press; 1988.)"

http://www.phaboard.org/wp-content/uploads/FINAL_PHAB-Acronyms-and-Glossary-of-Terms-Version-1.5.pdf.

- Uses data and information from a variety of sources, including qualitative and quantitative data,
- Describes the data and information used,
- Describes demographics of the population,
- Describes community health issues including identification of significant health issues and populations experiencing health inequities,
- Describes the factors that contribute to the significant health issues and health inequities,
- Describes assets or resources available to address priority health issues,
- Review the CHA and current data in conjunction with community partners and update the assessment every three to five years, and
- Ensure community health assessments are accessible to agencies, organizations, other stakeholders, and the general public.

Community Health Improvement Plan (CHIP): A plan for improving community health. A CHIP should be developed in conjunction with the governmental public health system and other community partners and:

- Uses information from the CHA to assist in the identification of community health issues,
- Prioritizes community health issues for action,
- Lead or engage with and document the collaborative health improvement planning process, with a wide range of community partners representing the many sectors of the community, and actions or strategies taken in partnership with others towards implementation,
- Describes assets or resources available to address priority health issues,
- Establishes a plan of action to address priority health issues, that includes goals, targets and performance measures and evidence-based interventions or innovative practices and designates individuals and organizations that have accepted responsibility for implementing strategies outlined in the plan,"
- Describes the desired outcomes and how progress will be measured,
- Describes policy changes needed to accomplish the identified health objectives,
- Align and coordinate with community partner needs assessment, region, Accountability Community of Health, state and national priorities to the extent possible,
- Review progress on the CHIP, review the CHA, and revise priority health issues if needed in conjunction with community partners and update the action plan every three to five years, and
- Document areas of the plan that were implemented by the LHJ.

Comprehensive Emergency Management Plan (CEMP): Provides a policy-level framework to support emergency response activities, by describing specific roles, responsibilities, functions, and support relationships of the agency. The CEMP also provides a framework for jurisdictional

coordination and cooperation supporting response and recovery in times of emergencies and disasters.

Element: Components of the definitions that further describe the work of the governmental public health system in implementing foundational capabilities and programs. There are 48 Elements which are Numbered and individually assigned to one foundational capability or program, such that they are represented as "[Foundational Capability Uppercase Letter].[Element Number]."

Emergency Communication Plan: A plan providing guidance on how to communicate in an emergency. This plan should address:

- A process for identifying a public information officer, message development, approval and release of urgent communications,
- 24/7 contact information for health care providers, response partners, media (including non-English media sources) and other partners and stakeholders,
- Templates for holding statements, news releases, talking points for use when communicating about public health threats and emergencies,
- Processes for leading, coordinating, or participating in public information planning, including working in a Joint Information Center or System during a local/regional/state emergency impacting the public's health,
- Processes and templates that support risk communication principles to maintain trust and credibility in an emergency or public health threat,
- Processes and community contacts for delivering critical health information to harder to reach communities, including limited English proficient residents and those with access and functional needs, and
- A process for notifying local/state public health partners in advance of issuing news releases, or social media messages which may impact their jurisdictions.

Emergency Support Function (ESF8) Public Health and Medical Services Annex: Provides the mechanism for coordinated federal assistance to supplement local, state, and Tribal Nations' resources in response to a public health and medical disaster, potential or actual incidents requiring a coordinated federal response, and/or during a developing potential health and medical emergency.

Ensure: The dictionary definition implies a virtual guarantee. In the context of the FPHS definitions, this means that the governmental public health system provides the service to the community.

Expertise: The appropriate knowledge and skills necessary to provide the activity, element and/or foundational capability or program.

Foundational Capabilities: The crosscutting capacity and expertise needed to support public health programs.

Foundational Programs: The subset of services in each public health program area that are defined as foundational.

Foundational Public Health Services (FPHS): A limited statewide set of core public health services that include foundational capabilities and programs that (1) must be available to all people in Washington, and (2) meet one or more of the following criteria:

- Services for which governmental public health is the only or primary provider of the service statewide,
- Population-based services (versus individual services) that are focused on prevention, and
- Services that are mandated by federal or state laws.

Functional Definition: Definitions that describe "what" FPHS provides for Washington's communities, but not "how" governmental public health should provide it,

- Are agnostic to which governmental public health provider should provide it,
- Are reduced to discreet activities (define as few actions as possible per statement) and begin with a verb identifying the action to be taken, and
- Align with existing guidelines and regulations.

Media Relations Plan: A plan for engaging, interacting with, and maintaining relationships with media. This Plan should include:

- How to draft, approve and distribute key message content,
- Which media method to use,
- How to track broadcast, digital, and social media coverage,
- How to maintain media access to an agency contact after business hours and on weekends, and
- What modifications to make to the plan and policies in an emergency.

Notifiable Conditions: Selected diseases and conditions for which Washington State health care providers, health care facilities, laboratories, veterinarians, food service establishments, child day care facilities and schools are legally required to notify public health authorities at their local health jurisdiction (LHJ) of suspected or confirmed cases. The full current list of notifiable conditions is available here:
https://www.doh.wa.gov/ForPublicHealthandHealthcareProviders/NotifiableConditions.

Public Health Accreditation Standards: A set of standards defined by the Public Health Accreditation Board (PHAB) to support assessment of the quality and performance of all public health authorities in the United States. Authorities that meet these standards through a vetting process with PHAB can become accredited.

Public Health Response Plan: A jurisdiction-specific plan outlining public health response in the case of an emergency. This may be part of a jurisdiction's Comprehensive Emergency Management Plan (CEMP) Emergency Support Function (ESF) 8 Public Health and Medical Services Annex

- Protocols that describe the assessment of emergency situations, management of incidents and mobilization of response activities,

- Criteria and procedures for activating the jurisdiction's public health response for all hazards, including communicable disease outbreaks, environmental public health hazards, natural and technological disasters,
- The process for identifying and activating support personnel (agency staff and outside personnel) who will be called upon to provide **surge capacity** during an incident response,
- How the Incident Command System is used to manage public health incidents, and to support policy-level decision making,
- The process for notifying and mobilizing public health staff during an incident,
- Provisions for protecting the health of vulnerable populations from the consequences of public health incidents, and
- The process for updating the plan based on lessons learned from real-life events and exercises.

Quality Improvement: The use of a deliberate and defined improvement process, such as Plan-Do-Check-Act, which is focused on activities that are responsive to community needs and improving population health. It is a continuous and ongoing effort to achieve measurable improvements in the efficiency, effectiveness, performance, accountability, outcomes, and other indicators of quality in services or processes which achieve equity and improve the health of the community.

Recreational Water: Water recreation facilities specified in Washington Administrative Code (WAC) and natural beaches.

Strategic Policy Agenda: A policy agenda that includes specific strategies to improve public health at the system level. The agenda should contain strategic policy priorities and goals and should align with other plans (e.g. Community or State Health Improvement Plan [CHIP or SHIP] and/or strategic plan) but can also include policy goals not related to other plans, as appropriate.

State Health Assessment (SHA): An assessment of statewide health. A SHA should be conducted every three to five years in conjunction with the governmental public health system and other statewide partners that:

- Uses data and information from a variety of sources, including qualitative and quantitative data,
- Describes the data and information used,
- Describes demographics of the population,
- Describes statewide health issues including identification of significant health issues and populations experiencing health inequities,
- Describes the factors that contribute to the significant health issues and health inequities,
- Describes assets or resources available to address priority health issues,
- Review the SHA and current data in conjunction with the governmental public health system and other statewide partners and update the assessment every three to five years. Ensure

that local community members at large review and contribute to the assessment, including those in populations where health inequities exist," and

- Ensure state, regional and community health assessments are accessible to agencies, organizations, other stakeholders, and the general public.

State Health Improvement Plan (SHIP): A plan for improving statewide health. A SHIP should be developed in conjunction with the governmental public health system and other statewide partners and:

- Uses information from the SHA to assist in the identification of statewide health issues,
- Prioritizes state health issues for action,
- Lead or engage with and document the collaborative health improvement planning process, participation of stakeholders, and actions or strategies taken in partnership with others towards implementation,
- Describes assets or resources available to address priority health issues,
- Establishes a plan of action to address priority health issues, that includes goals, targets and performance measures and evidence-based interventions or innovative practices,
- Describes the desired outcomes and how progress will be measured,
- Align and coordinate with national priorities and needs assessments and those of the state-level governmental public health system, other state agencies, statewide partners to the extent possible, and
- Review progress on the SHIP, review the SHA, and revise priority health issues if needed in conjunction with the governmental public health system and other statewide partners and update the action plan every three to five years.

Surge Capacity: The staffing and resources necessary to provide the implement the activity, element and/or foundational capability or program in annually-expected (one year) events that lead to demand increases.

Washington Governmental Public Health System: All governmental public health authorities, which currently include the Washington State Department of Health (DOH), Washington State Board of Health (SBOH), 35 local health jurisdictions (LHJ) and Tribal Nations.

Written procedures for Emergency Support Function 8 – Public Health & Medical (ESF8): These procedures should be published in the State or County Comprehensive Emergency Management Plan (CEMP), and/or the Public Health Response Plan, and should Include a description of:

- Protocols that describe the assessment of emergency situations, management of incidents, and mobilization of response activities,
- Criteria and procedures for activating the jurisdiction's public health and medical response for all hazards, including communicable disease outbreaks, environmental public health hazards, natural, and technological disasters,
- The process for identifying and activating support personnel (agency staff and outside personnel) who will be called upon to provide surge capacity during an incident response,

- How the Incident Command System is used to manage public health and medical incidents, and to support policy-level decision making,
- The process for notifying and mobilizing public health staff during an incident,
- Provisions for protecting the health of populations at increased risk from the consequences of public health incidents, and
- The process for updating the plan based on lessons learned from real-life events and exercises.

Appendix E: Sources/Resources

Centers for Disease Control and Prevention, State Activities Tracking and Evaluation (STATE) System,
http://nccd.cdc.gov/STATESystem/rdPage.aspx?rdREport=OSH_STATE.Highlights&rdREquestForwarding=Form

Institute of Medicine. *"For the Public's Health: Investing in a Healthier Future."* April 10, 2012.

Public Health National Center for Innovations (PHNCI), FPHS Fact Sheet:
http://phnci.org/uploads/resource-files/PHNCI-FPHS-Factsheet_FINAL-1.pdf.

Washington State Department of Health, Foundational Public Health Services (FPHS) Definitions V1.2, March 2016:
https://www.doh.wa.gov/Portals/1/Documents/1200/FPHSp-2016definitions.pdf.

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